

# 2008

## ANNUAL REPORT

FY 2007-2008



Florida Department of Agriculture and Consumer Services  
Charles H. Bronson, Commissioner

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and Consumer Services**

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# INTRODUCTION

This annual report summarizes the activities of the Florida Department of Agriculture and Consumer Services during fiscal year 2007-2008. The report is organized according to the Department's major functions, which include supporting Florida agriculture, promoting Florida agricultural products, ensuring a safe and wholesome food supply, preserving the natural environment, and safeguarding consumers.

In order to fulfill its broad range of responsibilities, the Department has over 3,000 employees organized under 13 divisions, as well as several major program offices, throughout the state. Floridians might not know our names, but they definitely know our work. We're the people who inspect grocery stores for cleanliness and safety. We regulate pesticides. We conduct safety inspections on fair and amusement park rides. We issue licenses for concealed weapons. We resolve consumer problems ranging from auto repair fraud to telemarketing complaints. Though we are a quiet agency and seldom make the headlines, our activities touch the lives of Floridians in innumerable ways every day. This annual report tells our story.

Growing more than 280 different crops, Florida's 47,000 commercial farmers furnish the nation with a dependable and safe supply of food and provide Florida with a stable economic base. Florida agriculture generates farm cash receipts of about \$7 billion annually and has an estimated overall economic impact of \$100 billion. Because a healthy agriculture industry contributes to a healthy Florida, assisting the state's farmers and ranchers is an important part of what our Department does. We collect and disseminate Florida agricultural statistics, manage Florida's state and community farmers' markets, enforce state animal health regulations, inspect feed, seed, and fertilizer, and help farmers fight crop diseases and pests. The Department's award-winning "Fresh from Florida" campaign continues to promote Florida agricultural products in foreign and domestic markets.

The Department is the lead state agency for food safety. Our Division of Food Safety monitors food from farm gate through distribution and processing to retail point of sale. Department personnel regularly inspect everything from packing houses to grocery stores, and our labs perform thousands of sophisticated analyses of food samples each year. We test fruits and vegetables for pesticide residues, dietary supplements for dangerous ephedrine alkaloids, and milk for contamination with residues of antibiotics. To prevent the spread of food-borne illness, the Department has the authority to halt the sale of any product considered hazardous to the public. We continue to enhance our capability to protect food security and respond to possible terrorist incidents involving the food supply.

The Department is dedicated to creating a sustainable future for agriculture and for all Floridians by protecting the state's natural resources. We promote Best Management Practices for soil and

# INTRODUCTION

water conservation and manage state forests and other lands. Florida's state forest system began in 1936 with just a single 6,000-acre state forest. Since then, the system has grown to include 35 state forests and over a million acres of forestland managed for multiple public uses. Forests provide services that benefit all Floridians, even people who never visit them. Forests filter our water, clean our air, preserve biodiversity, prevent erosion, reduce the threat of climate change, and provide natural flood control.

We protect the environment, and we protect consumers. The Department's Division of Consumer Services is the state's clearinghouse for consumer complaints and information. The division has responsibility for regulating various business industries operating in Florida and conducts investigations of unfair and deceptive trade practices. In addition, the division functions as the Consumer Product Safety Commission's liaison in Florida regarding product recalls, inspections, and investigations. Consumer education is the main focus of the division. Along with the information provided through our Call Center, thousands of educational brochures are distributed each year to individuals, civic groups, community organizations, and schools.

We are a diverse department with specialists in a wide array of fields, including chemistry, marketing, entomology, veterinary medicine, forestry, botany, art, video production, law enforcement, and more. This annual report acknowledges our staff's dedication and teamwork, which allow us to fulfill our multi-pronged mission even in these difficult economic times.



# MESSAGE

## from the Commissioner



Fiscal year 2007-2008 was one of tight budgets and dwindling state revenues. Once again state agencies were asked to do more with less. And yet despite funding restraints, the Florida Department of Agriculture and Consumer Services was able to initiate a number of new programs to better promote Florida agriculture and protect consumers. Finding innovative ways to stretch our limited resources, we were active on a wide range of issues, including food safety, alternative energy, climate change, and childhood obesity. We promoted Florida agricultural products around the globe.

Declining sales tax revenue in Florida makes it all the more critical to maintain a strong agriculture industry. Agriculture is one of Florida's main economic engines, the second most important industry in the state after tourism. To ensure that agriculture

continues to make a significant contribution to the state's economy, the Department is always working to improve the worldwide market share of Florida farmers.

Helping Florida farmers stay globally competitive was one of our goals when we partnered with the University of Florida this year to deliver food-safety training to agricultural workers. The Food Safety Partnership Program teaches agricultural producers and workers essential practices to prevent microbial and chemical contamination. The program targets the crops at the greatest level of production in Florida – tomatoes, leafy greens, melons, and berries. It helps farmers improve their product and is critically important for the safety of the consuming public.

Another way we are working to strengthen agriculture and benefit consumers is by developing a strong bio-fuels industry in Florida. In July 2007 I hosted the second annual Farm to Fuel Summit, bringing together leaders in agriculture, academia, government, and business who want to make

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## from the Commissioner

Florida a leader in the production of renewable energy. The summit was a component of the Farm to Fuel initiative, which aims to reduce the country's dependence on foreign oil and keep land in agriculture by providing another source of income for Florida's farmers.

The Department is one of the largest and most diverse state agencies in the country, and the variety of issues that we address is virtually unmatched. Alternative energy was on our agenda this year, and so was childhood obesity. In 2008 the Department launched the "Fresh from Florida Kids" program, which teaches new parents to prepare healthy baby food at home using fresh fruits and vegetables. A healthy start helps children avoid obesity, heart disease, diabetes, and many other diet-related health risks later in life. Participants in the "Fresh from Florida Kids" program received health and nutrition information and simple, healthful recipes for baby and family.

So, despite the tough economic times, the Florida Department of Agriculture and Consumer Services has much to be proud of this year. I've touched on only a few of our accomplishments. This annual report offers countless more examples of how our employees are making a difference.

Sincerely,



Charles H. Bronson  
Commissioner of Agriculture



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### Statistical Reporting

Reliable information is essential to making production, marketing, and policy decisions for the agricultural community. The Florida Department of Agriculture and Consumer Services shares in a cooperative federal/state program that is responsible for collecting and disseminating Florida agricultural statistics. Information on the state's major commodities is gathered through onsite producer surveys, voluntary mail questionnaires, and telephone and personal interviews. Statistics compiled from these data are available in over 200 reports issued annually.

This year the Florida Agricultural Statistics Service staffed an informational booth at industry trade shows for citrus, cattle, and nursery producers as part of its public relations efforts. The booth allowed the service to promote its role in the industry and increase

the visibility of its reports. The office prepared and conducted the 2007 Census of Agriculture, which was mailed to every farm operator in Florida in December 2007. Results are scheduled to be released February 4, 2009.

### Citrus

An initial citrus production forecast is issued in October and modified monthly through the citrus season based on fruit size measurements and observations on drop rate. These forecasts are based exclusively on objective data obtained directly by field personnel, including an extensive limb count survey conducted from July to September to estimate fruit set per tree. Florida's citrus growers produced an estimated 169.7 million boxes of all oranges and 26.6 million boxes of grapefruit in the 2007-2008 season. Cash receipts for all citrus crops sold in 2007 totaled \$1.51 billion compared to \$1.66 billion in the 2006 season. Citrus accounted for 19.7 percent of all cash receipts in 2007.



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### Vegetables

Florida growers harvested fresh market vegetables from 210,400 acres in 2007. Cash receipts for all vegetables amounted to \$1.65 billion, which amounted to 21.6 percent of all cash receipts in 2007. Tomatoes, peppers, sweet corn, cucumbers, and snap beans accounted for the largest amount of sales among vegetable crops.

### Greenhouse and Nursery Production

The total value of Florida greenhouse and nursery production exceeded \$1.94 billion. The foliage and floriculture industry contributed \$915 million, up from \$804 million in 2006.



### Berries and Melons

Strawberry production for 2007 was up from the year before, resulting in cash receipts of \$329.3 million compared to \$239.1 million in 2006. Higher prices for watermelons resulted in an increase in their total crop value to \$152.5 million in 2007.



### Field Crops

Potato prices in 2007 increased from the previous year, resulting in cash receipts of \$161.6 million to growers. Sugarcane production was up from the previous year, with total cash receipts increasing to \$445.1 million in 2007. Cash receipts for peanuts increased to \$60.4 million, due to increased production in 2007. Increases in the prices for cotton and cottonseed produced cash receipts of \$38.6 million in 2007, compared to \$34.7 million in 2006.

### Other Fruits and Nuts

Receipts for other fruits and nuts, such as avocados, blueberries, mangos, and pecans, at \$103.2 million, were up from \$98.2 million in 2006.

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### **Dairy**

Higher milk prices in 2007 resulted in increased cash receipts of \$460.8 million compared to \$344.2 million in 2006. The annual average farm gate price for milk in Florida was \$21.90 per cwt in 2007, up from \$15.90 in 2006.

### **Cattle and Calves**

The total number of cattle and calves was 1,710,000 head in 2007, down 20,000 from 2006, but lower prices resulted in cash receipts of \$449.1 million compared to \$475.9 million in 2006.

### **Poultry and Eggs**

Egg sales in 2007 totaled \$186.5 million, up from \$119.7 million in 2006 due to higher egg prices. Broiler prices were up in 2007 with sales increasing to \$182.8 million from \$159.3 million in 2006.

### **Aquaculture**

Aquaculture contributed an estimated \$58.1 million to total cash receipts. Tropical fish and aquatic plants accounted for the majority of the sales in this category.

### **Honey**

Florida was third in the nation in honey production in 2007 (behind North Dakota and California) with 11.4 million pounds valued at \$11.2 million. There were an estimated 160,000 colonies in the state in 2007 with an average honey yield of 71 pounds per colony, 10 pounds per colony less than in 2006.

### **Fruit and Vegetable Inspection**

The Division of Fruit and Vegetables serves as a third party to provide on-request inspections for the purpose of certifying the quality and condition of produce shipped in and out of the state to national and international markets. The Department's services, provided in cooperation with the United States Department of Agriculture's Agricultural Marketing Service, enhance the marketability of fruit and vegetables produced and imported into Florida.

Committed to meeting the needs of Florida's fruit and vegetable industries through fiscally responsible quality assurance and technical assistance services, the division constantly strives to find innovative and cost-effective methods of inspection. During fiscal year 2007-2008, the



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division inspected 9.8 million tons of fruit and vegetables valued at just more than \$2 billion. It also developed the first state-mandated tomato food safety inspection program and worked with the Florida citrus industry to research new technologies and alternative inspection programs for Florida's citrus processors.

## **Agricultural Dealer's Licenses**

The Department continued its support of Florida agriculture by administering Florida's Dealers in Agricultural Products Law. This law ensures that Florida producers of agricultural products covered by the license and bond provisions receive proper accounting and payment for their products.

During fiscal year 2007-2008 the Department issued 5,780 licenses and applied \$1,020,440 in license fees and delinquent penalties.

Department associates settled 110 dealer claims in the past year. Claims against dealers in agricultural products must be filed within six months from the date of sale and total a minimum of \$500. The efforts of Department associates resulted in a recovery of \$512,250.52 on behalf of Florida agricultural dealers.

The Department closely monitors dealers to make sure they maintain adequate bonds to protect Florida growers. Department associates conducted 628 bond and compliance audits of dealers' records during the year. These audits are designed to ensure that bond amounts are maintained, to determine whether unlicensed dealers were exempt from license and bond requirements, to determine if prospective licensees were conducting business in a manner requiring licensure, and to document violations of Department enforcement actions.

The Department opened 202 new enforcement cases, closed 161 cases, and collected \$201,903.51 in administrative fines during the 2007-2008 fiscal year. Enforcement actions resulted in an additional \$2,121,065 of bond protection for Florida growers.

## **State Farmers' Markets**

The Bureau of State Farmers' Markets manages four major program initiatives: State Farmers' Markets; Community Farmers' Markets; Women, Infants, and Children/Farmers' Markets Nutritional Program (WIC/FMNP); and County Fair Permitting.

State Farmers' Markets tenants and clients marketed \$565 million in wholesale value of produce, dairy, frozen seafood, and value-added products during fiscal year 2007-2008. The bureau operated 13 wholesale farmers' markets during the fiscal year. These markets offer a mix of wholesale and retail produce and attendant services such as produce refrigeration, truck weigh scales, farm supply, restaurants, and produce brokerage sales as well as produce and freight shipping companies. At year's end the available space for market tenants was 93 percent leased for a total of more than 1.9 million square feet of warehouse, office, and parking space.

Hurricane repair projects on the affected state market sites have made major strides in the recovery from the devastating storms of 2004 and 2005. Of the sites damaged by the storms of 2004, the repairs at Sanford, Fort Myers, and Wauchula have been completed. The Sanford hurricane reconstruction project expenses were \$675,000, the Fort Myers hurricane reconstruction expenses were \$5.9 million, and the hurricane reconstruction expenses in Wauchula were \$3.7 million. The Fort Pierce



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State Farmers' Market site reconstruction projects continue with a guaranteed maximum cost of \$19,483,862 and are expected to be completed by August 2008 at an estimated total cost of \$18 million. The Immokalee State Farmers' Market hurricane reconstruction has an anticipated total project cost of \$9 million to \$10 million and is currently being formally appealed with FEMA.

More than 200 farmers operating at over 20 community retail markets participated in the Women, Infants, and Children/Farmers' Market Nutrition Program (WIC/FMNP) this year. By promoting the consumption of fresh fruits and vegetables to WIC mothers and children, this program encourages a healthy diet while boosting farmers' sales at participating locations. The program was offered in 16 counties and provided over 30,000 WIC recipients with information about proper nutrition and the importance of fresh fruits and vegetables in their daily diets.

The County Fair Permitting Section issued permits for 52 fairs. Approximately \$300,000 was distributed to these fairs and other public organizations as agricultural premium and awards reimbursements. These awards encourage participation by Florida's youth in agricultural programs.

The popularity of retail farmers' markets continues to grow in Florida. There are over 80 retail markets promoted on the Department's web site.

### **Livestock and Domestic Animals**

The Division of Animal Industry enforces state animal health regulations to prevent, control, and eradicate infectious or communicable diseases of livestock and domestic animals. The division also works to protect the state from animal pests and diseases that threaten economic and public health.

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Through the efforts of the Bureau of Animal Disease Control and Bureau of Diagnostic Laboratories, the division:

- Monitors livestock and poultry on farms and ranches and at animal concentration points for disease status and carries out intensive animal disease investigations utilizing state-of-the-art laboratory testing for the diagnosis of domestic diseases, as well as emerging and potential foreign animal diseases.
- Works with producers and other cooperators to control animal diseases to ensure the health of the animal industries and to ensure safe and wholesome animal food products.

- Regulates, administers, and enforces laws relating to animal health to prevent the introduction of diseased animals into Florida and to prevent the spread of diseases within the state.
- Monitors companion animal health issues, provides consumer protection assistance, and supports rule and legislation development to ensure the overall health of small animal populations and industries in Florida.
- Provides information to livestock and poultry producers, private practitioners, and the public about regulatory requirements and Best Management Practices through news releases, brochures, the Internet and personal visits.
- Develops, implements and tests emergency response plans in the event of foreign animal diseases and other natural or manmade disasters affecting animals and animal food production.

Emergency management is also a responsibility of the division. Eighteen Emergency Support Functions (ESFs) were established in the Florida Comprehensive Emergency Management Plan. Each ESF is headed by a lead or primary agency or organization, which was selected based on its authorities, resources, and capabilities in that functional area. The Department's Division of Animal Industry is the primary lead responder for ESF-17, which was organized to ensure rapid response to animal and agricultural needs in a disaster or emergency scenario.

## **Animal Disease Control**

The Department, through the Division of Animal Industry, is responsible for administering the state's animal disease prevention, control and eradication programs. In cooperation with the

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USDA, the Department has moved beyond traditional perceptions of animal disease control and eradication by addressing public health issues and major economic impacts by developing new programs. The reemergence of brucellosis and tuberculosis and intermittent outbreaks of Vesicular Stomatitis and pathogenic Avian Influenza in other states emphasize the necessity of having a strong, active animal disease monitoring program in place with an open line of communication with public officials.

Rather than perceiving disease control and eradication programs as bureaucratic obstacles, the public is demanding that more be done to protect the nation's animal-origin food supply

and companion livestock. These needs – as perceived by the producer, the consumer, and associated animal industries – will influence the overall acceptability and effectiveness of future disease control and eradication programs.

The Department's program activities take into consideration the changing face of animal industries in Florida and throughout the United States. Numerous species previously considered exotic or wildlife have straddled or crossed the line between wildlife and agriculture. Government and industry are faced with challenging learning curves in veterinary medicine and disease risk analysis for unfamiliar species, with few or no precedents. The

# SUPPORTING Florida Agriculture

Department recognizes the need to include these emerging animal industries with traditional livestock industries so they can coordinate and respond to a greater range of issues.

## **National Animal Identification System (NAIS)**

The threat of a foreign animal disease outbreak or other animal health event in the United States is real. Unfortunately, the timing and severity of an outbreak are impossible to predict. The National Animal Identification System (NAIS) is a modern, streamlined information system designed to enable producers and animal health officials to respond quickly and effectively to animal health events in the United States. The foundation of the system is a database of premises where livestock, poultry, and equine are held. The NAIS program is a voluntary state-federal-industry partnership which will help to protect livestock, poultry, and equine owners and reduce hardships caused by an animal disease outbreak or other animal health event.

The individual animal identification component is intended to identify all agricultural animals as they come into contact with, or are intermingled with, animals other than herd mates from their premises of origin. The USDA long-term goal is to establish a system that can identify all animals that have had direct contact with a foreign animal disease or domestic disease of concern within 48 hours of discovery. Further development of a nationwide animal identification and tracking system will help secure the health of the national herd and ensure consumer confidence.

The NAIS is being implemented by the Division of Animal Industry on a voluntary basis. Since 2004, Florida has entered into cooperative agreements with the USDA to implement a premises identification system and work with

producers and industry groups on pilot animal identification projects. Division personnel continue to work with producers and industry leaders to develop practical approaches to meet the animal health and animal movement challenges of today's global marketplace.

As of June 30, 2008, a total of 4,841 Florida premises were registered. These premises include all species of livestock and each of Florida's USDA-approved livestock auction markets. Florida was the first major cattle-producing state to have 100 percent registration of its livestock markets. It is estimated that more than 85 percent of Florida's total cattle inventory is now housed on registered premises. The Division of Animal Industry continues to share information with and receive input from industry leaders representing all included species.

Pilot projects continue to test the utility of electronic animal identification for tracking and ranch management. Participating producers view the feedback of performance and health-related information as an increasingly valuable ranch management and marketing tool.

The calf segment tracked electronically identified (EID) Florida calves in interstate commerce while evaluating tag retention and electronic readers and technology necessary to support the electronic Interstate Certificate of Veterinary Inspection (ICVI). Several large ranches continue to utilize EID tags in calves sent to feeding facilities in other states and some are receiving premiums for their source and age verified calves.

The cull cow segment tracks cattle – individually identified by conventional or electronic means to verify the farm or ranch of origin and age – as they move through the processing system.



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Florida producers received industry-driven monetary premiums for these source-verified cattle. Participating ranchers were eager to register their premises to be eligible to gain this marketing advantage. Electronic identification and visual tags were provided to stimulate further application of individual animal ID.

Several of Florida's major ranches have electronically identified each animal in their producing herds as well as each calf crop. Individual electronic identification of the brood cows provides for enhanced management and

identification for horses. This technology can also be used to monitor movement through the state's Agricultural Interdiction Stations.

The Florida Equine Passport Card program has continued to grow with over 750 cards being issued during this fiscal year. Twelve states now accept the Florida Equine Interstate Passport Card, which extends the duration of the Official Certificate of Veterinary Inspection (OCVI) from the standard 30-day period to six months, for interstate movement to equine events. The negative Equine Infectious Anemia (EIA)



recordkeeping. Individual identification of the calves allows the return of production data for management decisions and also allows the calves to be marketed as source-verified.

The equine segment of the NAIS has included education and outreach, premises registration, and individual horse identification using microchips. The equine micro-chipping project received positive feedback from the equine community as a rapid, reliable form of individual

Verification Card has also been received well by the horse owners as an alternative to the paper Coggins form used for intrastate movement. During fiscal year 2007-2008, 467 EIA verification cards were issued. One of the requirements to receive either card is a completed NAIS premises registration application.

## **Animal Movement**

The monitoring of the movement of livestock and poultry into Florida by the Official Certificate



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of Veterinary Inspection is the Department's first line of defense against the inadvertent importation of animal diseases. When diseases threaten livestock and poultry in other parts of the country, the Department may enact additional regulations for animals being imported into Florida, often requiring prior notification, permission and permitting from the Department before shipments are allowed into Florida through the Agricultural Interdiction Stations.

### **Health Certificates**

During fiscal year 2007-2008, the division processed 43,375 certificates representing more than 700,634 animals moving into or out of Florida. Beef and dairy cattle were the most numerous animals shipped, while horses accounted for the highest number of shipments moving through Florida. Other species accounting for much of the animal movement into and out of Florida were swine, goats, sheep, and exotic species. This number does not include the numerous poultry or small animal movements. All livestock transported into Florida are subject to certificate verification by Agricultural Law Enforcement officers.

### **Carcass Hauler Permits**

The purpose of Carcass Hauler Permits is to prevent, control, or eradicate diseases that may be transmissible to other animals or humans. During fiscal year 2007-2008, 437 permits were issued. By June 30 of each year, individuals or businesses are required to apply for and receive a permit to haul any dead, dying, disabled, or diseased animal, any product of an animal that died other than by slaughter, or any inedible animal product not meant for human consumption.

### **Livestock Haulers Permits**

The purpose of the program is to protect owners of animals and legitimate businesses that haul livestock by improving control over livestock thefts and other illicit livestock operations. During fiscal year 2007-2008, the division issued 1,892 livestock hauler permits/tags. These permits/tags are required for each vehicle hauling or transporting livestock for hire on Florida's public roads or highways.

For a fee, a special livestock hauler license tag is issued and is valid for the current calendar year. Starting in 2006, the division began using decals on issued tags. Every fifth year after 2006, livestock haulers will receive a new tag and a decal for that year.

### **Marks and Brands Program**

Livestock brand registration was centralized at the state level in 1945. The change from county by county registration was instituted to prevent duplication of brands by different owners, especially as commerce and trade increased among different parts of the state.

In fiscal year 2007-2008, the division issued 222 new brand certificates, transferred 34 brands, and renewed 969 certificates. Currently, the total number of brands registered in Florida is 5,403.

Branding of livestock in Florida is not required, but, if done, owners must register their brands with the state. Registration is accomplished by submitting an application to the division with a fee of \$10.

### **Poultry**

Several important diseases can have a disastrous impact on the poultry industry if allowed into the state. In an effort to carry out its mission of surveillance, prevention, and control, the

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division conducts inspections of poultry premises, live bird markets, small animal sale markets, botanicas, fairs and exhibitions, imported birds, and backyard flocks in accordance with state rules and regulations and USDA's National Poultry Improvement Plan (NPIP). Through these programs, information on disease control and biosecurity on the farm has been distributed throughout the state in an effort to inform the public about their role in controlling these diseases.

### Avian Influenza

Due to the recent outbreaks of Avian Influenza (AI) H5N1 in other countries and in response to increased public concerns, AI surveillance has become a major focus for the Department and the Division of Animal Industry. An Avian Influenza State Response and Containment Plan was developed and a Poultry Emergency Disease Committee was established. Members on the committee consist of state, federal and industry representatives. In cooperation with the USDA, the expanded Avian Influenza surveillance program now includes sample collection and inspections at botanicas, live bird markets, animal sale markets, fairs/exhibitions, backyard flocks, upland game birds, sick bird investigations, and commercial flocks.

Globally, there are many different strains of AI virus causing a variety of clinical illnesses in poultry. Viruses can infect chickens, turkeys, pheasants, quail, ducks, geese, and guinea fowl, as well as a wide variety of other birds. Migratory birds, especially waterfowl, have been shown to act as a natural reservoir for the less infectious strains of the disease. AI viruses can be classified into low pathogenicity (LPAI) and high pathogenicity (HPAI) based on the severity of the illness they cause. HPAI is the highly transmissible and lethal form of the



disease that, once established, spreads rapidly. Because some LPAI viruses can mutate into HPAI viruses, surveillance for both is extremely important. Although Florida has not detected HPAI and the United States has not detected the Asian strain of H5N1, Florida has greatly increased its scrutiny and testing of birds in all facets of the industry for the presence of this deadly strain.

Department-authorized agents tested 123 small animal sale markets, botanicas, and live markets for AI, resulting in 3,154 birds tested.

Over 869 commercial poultry premises were tested and 13,223 samples were submitted for AI in accordance with the NPIP AI monitoring program.

### Pullorum Disease Program Work

Fowl Typhoid (FT) and Pullorum Diseases (PD), affecting chickens and turkeys primarily, are caused by *Salmonella gallinarum* and *Salmonella pullorum*, respectively. Clinical

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signs in chicks and poults include anorexia, diarrhea, dehydration, weakness, and high mortality. In mature birds, FT and PD signs are decreased egg production, fertility, and hatchability and anorexia and high mortality rates. If allowed to spread, these diseases can have damaging effects on the poultry industry. In conjunction with the USDA's National Poultry Improvement Plan (NPIP) program, the state tests birds for Pullorum Typhoid and other deadly contagious poultry diseases.

A total of 303 NPIP program flock inspections were conducted during fiscal year 2007-2008. At these NPIP premises, there were 8,320 birds tested for Pullorum Typhoid (PT) and 3,713 birds tested for AI during this fiscal year. Department-authorized agents continue to inspect and test for PT and AI on poultry coming into fairs for exhibition. During 2007-2008, the Department inspected 8,810 birds at 55 fairs. Authorized agents tested 4,243 of the birds exhibited at the fairs for PT and 796 for AI.

### Other Poultry Program Work

Monitoring and surveillance activities for *Mycoplasma gallisepticum* (MG), *Mycoplasma synoviae* (MS) and AI on commercial poultry breeding flocks were also continued for the 2007-2008 fiscal year. During fiscal year 2007-2008, 171 flocks were tested and 9,463 samples were submitted to the division's diagnostic laboratories for MG and MS testing.

The division continues to conduct quarterly hatchery inspections at commercial egg, meat, and turkey premises in accordance with the NPIP; 16 inspections were performed and 576 samples were submitted to the state diagnostic laboratories. The division also investigates all sick bird and unusual dead bird reports and (when possible) takes samples for testing for Avian Influenza and Pullorum Typhoid. During fiscal year 2007-2008, the Department conducted 44 sick bird investigations representing 198 birds being tested for AI. Department inspectors also conducted routine inspections of dead bird

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disposal methods at commercial poultry farms. During the 2007-2008 fiscal year, 489 such inspections were conducted.

The Poultry Best Management Practices (BMPs) Quality Assurance Program in the Suwannee River Water Management Area was implemented in 2001. Currently, 199 poultry farms are enrolled in the program and inspected by division staff.

The division implemented a poultry database for permitting all poultry and eggs imported into the state or transshipped through Florida to other countries. During fiscal year 2007-2008, 1,703 import permits and 1,434 transshipment permits were issued, representing 28,916,901 live birds and 32,225,959 dozen hatching eggs.

### Cattle

During the 2007-2008 fiscal year, 435,382 cattle were inspected at livestock markets.

### Brucellosis

Brucellosis is a contagious, costly disease of ruminant animals that also affects humans. Although brucellosis can attack other animals, its main threat is to cattle, bison, and swine. The disease is also known as contagious abortion or Bang's disease. In humans, it is known as undulant fever because of the severe intermittent fever accompanying human infection, or Malta fever because it was first recognized as a human disease on the island of Malta. The disease is caused by a group of bacteria known scientifically as the genus *Brucella*. Three species of *Brucella* cause the most concern: *B. abortus*, principally affecting cattle and bison; *B. suis*, principally affecting swine and reindeer but also cattle and bison; and *B. melitensis*, principally affecting goats but not present in the United States. In cattle and bison the disease

currently localizes in the reproductive organs and/or the udder. Bacteria are shed in milk or via the aborted fetus, afterbirth, or other reproductive tract discharges.

There were 419 herds representing a total of 94,364 cattle tested in the field for brucellosis during the fiscal year, with no reactors. An additional 153,738 cattle were tested at slaughter with seven positive tests. None of the animals tested positive for *B. abortus*, and the state maintains the classification of Class Free. At livestock markets 974 cattle were tested, with none found to be infected. During the same period 63,059 cattle were vaccinated against brucellosis.

### Tuberculosis

Tuberculosis (TB) is a contagious disease of both animals and humans. It is caused by three specific types of bacteria that are part of the *Mycobacterium* group: *Mycobacterium bovis*, *M. avium*, and *M. tuberculosis*. Bovine TB, caused by *M. bovis*, can be transmitted from livestock to humans and other animals. No other TB organism has as great a host range as bovine TB, which can infect all warm-blooded vertebrates. *M. avium* can affect all species of birds, as well as hogs and cattle. *M. tuberculosis* primarily affects humans but can also be transmitted to hogs, cattle and dogs.

Last year in Florida, 93 herds were tested for tuberculosis. Within these herds 1,161 head of cattle were tested and no cattle were found to be infected. Surveillance sampling of tuberculosis-like lesions in slaughter cows yielded no positive animals.

### Transmissible Spongiform Encephalopathies

Transmissible Spongiform Encephalopathies (TSE), or prion diseases, are rare forms of



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progressive neurodegenerative disorders that affect both humans and animals and are caused by agents that produce changes in the brain. TSE typically have incubation periods ranging from several months to years before symptoms become apparent. No conventional serologic test can identify TSE-infected animals, and so TSE are usually identified from the brain tissue of dead animals. There is no vaccine or cure for these diseases, and once symptoms appear, TSE are invariably fatal.

The TSE family of diseases includes Bovine Spongiform Encephalopathy (BSE); scrapie, which affects sheep and goats; Transmissible Mink Encephalopathy (TME); Feline Spongiform Encephalopathy (FSE); Chronic Wasting Disease (CWD) of deer and elk; and in humans, kuru, both classic and variant Creutzfeldt-Jakob

Disease (CJD and vCJD), Gerstmann-Straussler-Scheinker syndrome, and fatal familial insomnia. TSE have also been reported in captive exotic ruminants, and in exotic and domestic cats. The agent isolated from several of these cases is indistinguishable from BSE in cattle, suggesting the occurrence of TSE in these species resulted from BSE-contaminated feed.

### **Bovine Spongiform Encephalopathy (Mad Cow Disease)**

Bovine Spongiform Encephalopathy (BSE), widely referred to as "mad cow disease," was first diagnosed in 1986 in Great Britain. BSE was discovered in Canada in 2003, in Washington State in 2004, in Texas in 2005, and most recently in Alabama in 2006. The BSE-infected cow from Washington State was later found to have originated from a Canadian herd. These isolated cases generated a rapid response from state and USDA officials, and resulted in new control, testing, and surveillance programs designed to rule out and prevent further cases in U.S. herds. The Department continues to work with federal and state partners to conduct surveillance and to prevent the introduction of BSE from foreign sources. Federal funding for enhanced surveillance ended in December 2006 and future testing will be limited to suspect cases.

### **Johne's disease**

Johne's disease is a contagious, chronic, and usually fatal infection that affects primarily the small intestine of ruminants. All ruminants are susceptible to Johne's disease. Johne's disease is caused by *Mycobacterium paratuberculosis*, a hardy bacterium related to the agents of leprosy and tuberculosis. The disease is worldwide in distribution. Signs of Johne's disease include weight loss and diarrhea with a normal appetite. Several weeks after the onset of diarrhea, a



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soft swelling may occur under the jaw (bottle jaw). Bottle jaw, or intermandibular edema, is due to protein loss from the bloodstream into the digestive tract. Signs are rarely evident until two or more years after the initial infection, which usually occurs shortly after birth. Animals are most susceptible to the infection in the first year of life.

As of June 30, 2008, the Florida Voluntary Johne's Program had 161 dairy and beef operations enrolled. For fiscal year 2007-2008, the Live Oak Diagnostic Laboratory conducted 45,921 tests. Florida is successfully meeting the guidelines developed cooperatively with the USDA for continued funding of this program. In February 2008, the Department collaborated with the USDA, the University of Florida College of Veterinary Medicine, and the Florida Veterinary Medical Association to provide a continuing education conference for private practitioners which included an intensive update on the Johne's Program.

The Johne's Dairy Demonstration Project is ongoing in Davie and has continued to offer additional information on management impacts on the transmission and control of Johne's disease. This project is a collaborative state-federal venture and is working toward advancements in testing procedures with Purdue University.

### **Small Ruminants (Sheep and Goats)**

During fiscal year 2007-2008, the Department inspected 13,866 small ruminants at livestock markets and 31,394 sheep and goats at small animal sale markets. Division staff also inspected 6,327 goats and sheep on farms or assembly points.



### **Tuberculosis**

Tuberculosis (TB) in goats and sheep, though considered a rare occurrence, is caused by one or more of the three types of *Mycobacterium*: *M. bovis*, *M. avium*, and *M. tuberculosis*. *M. bovis* infects all warm-blooded vertebrates, including humans, while *M. avium* is the species that causes most of the infections in sheep. The bacterium can be transmitted to humans via milk, so dairy herds should be tested. Sixteen sheep and 402 goats were tested for tuberculosis and all were found to be negative. There are 12 certified tuberculosis-free goat herds in Florida.

### **Brucellosis**

Brucellosis is more common in goats than in sheep, and is caused by *Brucella melitensis*. The sign most often associated with brucellosis in goats is abortion, but not all animals that abort have brucellosis and not all brucellosis-

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infected animals will abort. The organism can be transmitted via blood, vaginal discharge, milk, aborted fetuses, and placenta. The danger of human infection and economic losses makes this another important disease to control and eradicate. Forty-nine sheep and 767 goats were tested for brucellosis and all were found to be negative. There are 14 certified brucellosis-free goat herds in Florida.

### Scrapie

Scrapie is one of a number of diseases of ruminants classified as Transmissible Spongiform Encephalopathies (TSE). Scrapie affects the central nervous system of sheep and goats, but clinical signs may not appear until the animal is five years of age or older. The USDA's Voluntary Scrapie Flock Certification Program provides participating producers with the opportunity to protect their sheep from scrapie and enhance the animals' marketability by having them certified scrapie-free. Florida now has 36 flocks/herds participating in this program, and three certified flocks/herds. Under USDA-APHIS rules and regulations, and the Scrapie Eradication Uniform Methods and Rules, all sheep and goats in Florida are required to have an official USDA-APHIS approved tamper-resistant individual animal identification tag. Three hundred and forty-nine flocks/herds obtained scrapie tags under this program for fiscal year 2007-2008.

### Equine

#### Contagious Equine Metritis

Contagious Equine Metritis (CEM) is a highly contagious reproductive disease that can affect all equids and is caused by the bacterium *Taylorella equigenitalis*. The infection can result in short-term infertility in mares that is sometimes associated with a vaginal discharge

and, rarely, abortion. Mares can become unapparent carriers of the bacterium in their reproductive tracts and can shed the organism into the environment and transmit it through subsequent breeding. Stallions do not develop clinical signs but can carry the organism on their genitalia for years and spread the disease by breeding susceptible mares.

CEM is considered an exotic disease in the United States, which means it is not found in the native horse population; however, the CEM bacterium was cultured in three imported stallions in a Midwestern state this past fall. Currently, there are at least 25 countries and



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territories where CEM exists, including a number of the member states of the European Union. CEM is a serious venereal disease because it is highly contagious. There is no vaccine against CEM, but there are ways to detect infected horses and to rid infected stallions and mares of the bacterium via treatment and testing protocols.

Florida utilized 19 Approved CEM Quarantine Facilities to handle the CEM importation requirements for horses entering the United States. During fiscal year 2007-2008, 201 imported stallions and mares were processed through these facilities. There were no positive horses detected.

### **Equine Infectious Anemia**

Equine Infectious Anemia (EIA), also known as “swamp fever,” is an incurable blood-borne disease that affects only members of the equine species. It is transmitted primarily by large biting flies but may also be transmitted by contaminated needles and surgical instruments and through breeding. Once an animal is infected, it remains infected for the rest of its life. While some horses die from acute infections, most remain as seemingly symptom-less carriers. However, infected animals are still capable of transmitting the disease and pose a threat to healthy animals. There is currently no vaccine or effective treatment for this disease.

EIA is a disease of worldwide significance. In some foreign countries, the disease incidence may be as high as 50 percent or more. In the United States, it occurs in most every state; however, 90 percent of the cases occur in what is known as the “hot zone,” those states bordering the South Atlantic Coast, the Gulf of Mexico, and the Mississippi River Basin, including Oklahoma

and Texas. Disease risk in these areas is higher because environmental conditions are more favorable for prolonged insect vector seasons.

Florida’s equine industry continues to be a vital economy to the state, and the Department is working hard to safeguard this important state resource from the potential devastating effects of this disease. With support and cooperation from the state’s equine industries, Florida was one of the first states to implement an EIA disease control program.

Last year, more than 2.1 million horses were tested for EIA nationally. In Florida, more than 143,000 horses were tested, with only five reactors detected. On a national level roughly 20 percent of the equine population is tested annually, but in Florida approximately 30 percent of the horses are tested annually. In spite of being in the EIA “hot zone,” Florida’s EIA control program keeps the disease incidence at a very low rate (0.004 percent), which is below the national level of 0.015 percent. This can be attributed to the Department’s effective EIA control program and strong support from the state’s equine industry.

### **Equine Piroplasmosis**

Equine Piroplasmosis (EP) is an animal disease caused by the parasitic organisms *Babesia equi* and *Babesia caballi*, and is primarily transmitted to horses by ticks. The greatest risk of introduction of this disease is through importation of horses from countries where EP is endemic.

Florida is the only state that monitors the status of horses imported from Puerto Rico and the U.S. Virgin Islands, where EP is endemic. Florida requires all horses to be negative for EP prior

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to shipment and to be retested 30 to 60 days after arrival. Last year, the Department issued 84 permits covering 106 horses.

### **Arboviruses**

Arthropod-borne viruses (arboviruses) are viruses that can be transmitted to humans and horses by mosquitoes. Arboviral infections in humans and horses may result in development of a fatal case of encephalitis: inflammation of the brain and spinal cord. These viruses are maintained in nature through continuous transmission between natural reservoir hosts (primarily wild birds) and certain species of mosquitoes (disease vectors). Humans and horses do not contribute to the spread of these diseases and, as such, are considered “dead-end” hosts. Although other animals are susceptible to arbovirus infections, humans and horses are most susceptible to developing clinical disease.

As arboviral activity is seen every year in Florida, an Arboviral Working Group has been formed. It involves many state agencies, including the Florida Department of Agriculture and Consumer Services, the Florida Department of Health, the Florida Wildlife and Conservation Commission, and the University of Florida, among others. This task force monitors the Florida arboviral situation all year, which includes testing and surveillance of sentinel chicken flocks, wild birds, horses, humans and other animals, and mosquitoes. The Bureau of Animal Disease Control’s role involves the monitoring of equine populations for Eastern Equine Encephalomyelitis (EEE) and West Nile Virus (WNV).

### **Eastern Equine Encephalomyelitis**

Eastern Equine Encephalomyelitis (EEE) is one of several arboviruses transmitted by infected

mosquitoes that may cause fatal encephalitis in humans and horses. Mosquitoes become infected with the virus after feeding on wild birds. Transmission of EEE from horse to horse or horse to human via mosquito bites is highly unlikely because humans and horses are poor reservoirs for the virus. In humans and horses, the mortality rate is extremely high: 50 percent or more in humans and 80 to 90 percent in horses.

EEE is most often detected in horses during the months of May through September. Florida averages over 74 confirmed cases of EEE each year. Many of these cases appear in the same areas year after year. Mosquito activity in Florida may occur on a year-round basis; therefore, cases of EEE may be reported during any given month. About every seven to 10 years, the number of cases reported reaches epidemic proportions and may be well over 100. In 2003 the number of cases reached epidemic levels with 207 cases being reported. The EEE activity during the first half of fiscal year 2007-2008 was below normal, most likely due to the extreme dry weather and resultant decrease in the mosquito populations. During the second half of the year, however, the activity was above normal with the month of June 2008 having 25 confirmed horse cases of EEE.

### **West Nile Virus**

West Nile Virus (WNV) is another mosquito-borne viral disease that may cause encephalitis in humans and horses, but unlike EEE, the clinical course of the disease is not as severe, and mortality rates are much lower: 25 percent to 30 percent in horses and less than 10 percent in humans.

WNV is commonly found in wild birds, humans, and other vertebrate animals in Africa, Eastern Europe, Western Asia, and the Middle East,



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but until 1999 had not been documented in the Western Hemisphere. During the late summer of 1999, WNV was identified in New York City for the first time. By the end of the year, cases in wild birds, humans, and horses had been documented in three northeastern states. The virus survived the winter, and during 2000 continued to spread to 12 eastern coastal states.

By 2001 the virus had spread to 18 states, including Florida. Across the country more than 730 equine cases were confirmed, with 156 fatalities. Florida alone reported 492 cases with 82 deaths. In 2002 WNV expanded rapidly westward. Almost 1,500 equine cases were reported in 40 states. Approximately one-third of the affected horses died. Florida reported 499 cases with 92 horse deaths. In 2003 there were 117 equine cases reported. This number has continued to decline in horses, and in fiscal year 2007-2008 there was only one confirmed case in a horse.

The Department continues to work closely with its other Arboviral Working Group partners to provide valuable surveillance data on equine cases. The EEE/WNV Equine Database has been an invaluable tool in tracking these diseases and reporting them to the working group in a timely manner. Early detection and reporting of arboviral cases help to warn citizens to take precautions against mosquito bites and to remind horse owners to ensure that their horses are appropriately vaccinated.

### Swine

For fiscal year 2007-2008, 67,803 swine were inspected on 3,742 premises visits by field personnel, 17,442 were inspected at livestock markets, and 8,124 were inspected at fairs and shows.

### Classical Swine Fever

Classical Swine Fever (CSF), also known as hog cholera, is a highly contagious viral septicemia affecting only swine. It has been eradicated from the United States since 1976. As the world's second-largest exporter of pork, the U.S. pork industry would suffer catastrophic losses should there be a CSF outbreak. Florida must remain vigilant in its surveillance for the emergence of foreign animal diseases because of its location and high feral swine population, the existence of



garbage feeders, and increases in international travel. During the past fiscal year, in accordance with a state-federal cooperative agreement, a targeted surveillance program of slaughter plants and high-risk swine populations (garbage feeders, feral swine) was begun. In 2007-2008, 40 tonsil samples were submitted to the Kissimmee Animal Disease Diagnostic Laboratory for testing, and 3,155 serum (blood) samples were submitted to the U.S. Department of Agriculture Foreign Animal Disease Laboratory for testing.



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### **Garbage Feeders**

The cooperative State-Federal Swine Health Protection Act established standards for feeding waste to swine. The standards were designed to prevent the introduction of foreign animal diseases such as Foot-and-Mouth Disease and Classical Swine Fever (CSF) into U.S. herds. As the primary entity charged with fulfilling the requirements under this act, state inspectors have the responsibility of conducting monthly checks at facilities that collect edible waste food products that are cooked and fed to swine. During fiscal year 2007-2008, the Department licensed 86 garbage feeder operators and carried out a total of 1,202 inspections. Through these inspections, 54,887 garbage-fed swine were evaluated and, if needed, tested for disease.

### **Swine Brucellosis and Pseudorabies (Aujeszky's Disease)**

Brucellosis is a contagious, costly disease affecting ruminants, swine, and humans. Caused by a bacterium, it affects livestock by causing abortion, low fertility, and lameness. Under the Cooperative State-Federal Brucellosis Eradication Program, Florida is classified a brucellosis-free state for its commercial production swine. Like brucellosis, pseudorabies is a deadly disease of pigs that can be spread to cattle, horses, sheep, goats, dogs, and cats. An infection with this viral disease leads to high mortality in newborn piglets, and older pigs can become carriers of the virus for life. A voluntary cooperative eradication program for pseudorabies was established in the United States in 1989 and involves industry and federal and state government. The program's primary activities include surveillance, herd monitoring, and herd cleanup. Swine producers that wish to have Qualified/Validated status or

Modified-Monitored/Validated status for these two diseases must first pass a risk assessment test and complete a herd health plan. Florida is classified a pseudorabies-free state (also within the Commercial Production Swine herds). For fiscal year 2007-2008, 638 animals were tested for pseudorabies and 640 animals were tested for swine brucellosis. Twelve herds qualified as brucellosis-free and pseudorabies-free.

### **Reportable Animal Disease Tracking**

Reportable diseases are those considered dangerous and transmissible. They can seriously impact animal, and sometimes public, health. Early disease detection is instrumental for effective control and eradication. Having a list of reportable diseases gives the state a road map to follow in carrying out its mission of protecting its populace from animal pests and diseases, which could have major economic and public health consequences. From that list, the Department has developed a database on which information concerning reportable animal disease investigations can be entered and evaluated. For fiscal year 2007-2008, 271 reportable disease investigations were carried out by Department personnel.

### **Cervidae**

Florida's captive cervidae industry continues to grow. While this industry is licensed primarily by the Florida Fish and Wildlife Conservation Commission (FWC), the Department is a partner working with disease control issues and importation policies. A newly formed Florida Deer Farmers Association, with 105 active members, is working with the Department and game biologists to improve the herd health and genetics of Florida's captive cervidae herds.

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The Department's captive Cervidae Herd Health Plan requires mandatory testing of all animals that die or are killed if they are older than 16 months of age. Passive surveillance of symptomatic wild deer is also under way. To ensure these requirements are enforced, state personnel work with owners of captive cervidae herds on disease management programs. They conducted over 482 premises inspections during the past fiscal year. No animals tested positive for tuberculosis, brucellosis, or CWD.

The Department continues to monitor the status of certain diseases affecting cervidae in other regions of the United States.

### **Chronic Wasting Disease**

Chronic Wasting Disease (CWD) is a Transmissible Spongiform Encephalopathy (TSE) of deer and elk. To date, this disease has been found only in cervids (members of the deer family) in North America. First recognized as a clinical "wasting" syndrome in 1967 in mule deer in a wildlife research facility in northern Colorado, it was identified as a TSE in 1978. CWD is a progressive disease that attacks the brains of infected animals, causing the animals to become emaciated, display abnormal behavior, lose bodily functions, and subsequently die. CWD has become of particular concern due to its lack of known prevention and treatment, lack of a live animal diagnostic test, and unknown origin and means of transmission. There is no known relationship between CWD and any other TSE of animals or people, and there is no evidence that CWD poses any risk to human health.

On April 9, 2002, the Department issued an emergency rule, 5C-ER-02-1, Chronic Wasting Disease. Current growth and resultant rapid widespread movement in the cervidae farming industry are increasing the potential for the spread of CWD and other diseases of cervidae. Due to the potential threat CWD poses to Florida's captive and free-ranging cervidae populations, the emergency rule enacted a 90-day ban on importation of cervidae from any state or location with reported cases of CWD and a 90-day restriction on importation of cervidae from all other states or locations. A permitting and reporting system was rapidly implemented by the Department to monitor interstate and intrastate movement of cervidae. The final rule for cervidae, Chapter 5C-26, Florida Administrative Code, became effective on November 27, 2002. This rule requires that cervidae being imported into

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Florida originate from a herd that participates in an official CWD surveillance/prevention program, be free of CWD for at least 60 months prior to importation, and originate from accredited tuberculosis-free and brucellosis-free herds. It also requires that all captive cervidae being transported within the state must originate from, and be moved to, premises currently licensed by FWC and currently enrolled in the Division of Animal Industry's Cervidae Herd Health Plan (CHHP) program. Since Rule 5C-26 became effective, the number of approved CHHP program herds has increased from 93 herds in 2002 to 310 as of June 30, 2008. Additionally, all cervidae being transported into or within Florida are required to be accompanied by a Certificate of Animal Movement, issued by the division within 30 days prior to movement. A total of 25 import permits and 231 intrastate movement permits were issued during fiscal year 2007-2008.

A federal CWD Herd Status Rule that will place specific requirements on cervidae being moved from state to state is still under consideration before becoming effective. The Division of Animal Industry is continuing to work with Florida's captive cervidae herd owners to help them achieve CWD Free Herd Status.

CWD has been diagnosed in both captive and free-ranging elk, mule deer, white-tailed deer, and black-tailed deer located in Canada, Colorado, Illinois, Kansas, Minnesota, Montana, Nebraska, New Mexico, New York, Oklahoma, South Dakota, Utah, West Virginia, Wisconsin, and Wyoming. The Department continues to work with the cervidae industry, USDA, and other state and federal agencies to prevent the introduction of CWD and conduct surveillance in farmed and wild cervidae populations in Florida. During the

2007-2008 fiscal year, 555 samples from free-ranging deer and six from captive cervidae herds in Florida were submitted for testing and all results were negative.

### **Companion Animal and Small Animal Programs**

In 2003 the Division of Animal Industry designated a separate program area to monitor companion animal health issues within the state and ensure compliance with existing rules and legislation affecting companion animals. Efforts have continued and expanded as compliance with interstate and intrastate small animal movement requirements, health certification by accredited veterinarians in Florida, consumer protection and assistance, and rule development/legislative support areas are monitored.

A tracking system was implemented to address consumer complaints involving health certification and the sale of small animals (dogs and cats), covered by Section 828.29, F.S., the Pet Law, and Section 585.145, F.S., relating to the control of animal diseases as well as Departmental rules. A total of 300 complaints were processed. These complaints involved 289 dogs and 11 cats and included complaints against 101 pet stores, 94 breeders, 43 brokers, 29 veterinary clinics, seven private sellers, five boarding kennels, and 21 miscellaneous subjects.

Mediation of consumer complaints resulted in refunds of purchases in the amount of \$14,626. Thirty-three cases/complaints were referred to other agencies, and 10 cases were referred to the Office of Agricultural Law Enforcement for further investigation. Seven educational letters were sent to sellers and their veterinarians in Florida in an effort to inform them of the requirements

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of Florida statutes governing the sale and health certification requirements of dogs and cats sold in or transported to Florida.

During the 2007-2008 fiscal year, division inspectors visited 245 pet stores to review Official Certificates of Veterinary Inspection and inform sellers about the requirements of the Pet Law for sales of dogs or cats in Florida.

### Emergency Management

In the aftermath of Hurricane Andrew in 1992, Chapter 252, F.S. (State Emergency Management Act), was enacted which mandates the development of the Florida Comprehensive Emergency Management Plan. The plan establishes a framework through which Florida prepares for, responds to, recovers from, and



mitigates the impacts of a wide variety of disasters that could adversely affect the health, safety and/or general welfare of the residents of the state. The plan provides guidance to state and local officials on procedures, organization, and responsibilities. It also provides for an integrated and coordinated local, state, and federal response.

To facilitate effective operations, the plan adopts a functional approach that groups the types of assistance to be provided into 18 Emergency Support Functions (ESF). Each ESF is headed by a lead or primary agency or organization, which has been selected based on its authorities, resources, and capabilities in that functional area.

ESF 17, Animals and Agriculture, is organized to ensure a rapid, coordinated response to animal and agricultural needs in the disaster area. The Department is the primary agency for ESF 17. The Division of Animal Industry assigns personnel to staff ESF 17 at the State Emergency Operation Center as well as in the field and provides daily direction. This direction includes the assignment of personnel to handle requests for assistance and ensures that requests for assistance are prioritized, met, and documented.

ESF 17 establishes coordination with other Emergency Support Functions and multiple county, state, and federal agencies and volunteer organizations. It maintains open communications with these agencies and organizations in both the planning and operations stages.

In order to effectively coordinate the efforts of multiple organizations, a State Agricultural Response Team (SART) was formed in 2003. SART is a multiagency coordination group



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consisting of governmental and private entities dedicated to all-hazard disaster preparedness, planning, response, and recovery for the animal sectors in Florida.

SART's mission is to empower Floridians through training and resource coordination to enhance all-hazard disaster planning and response for animal and agricultural issues. SART operates under the direction of an advisory board made up of representatives from supporting agencies and organizations.

Participating agencies supply personnel who comprise the SART Advisory Board. This board currently has over 30 members. It meets quarterly to provide guidance for animal and agricultural emergency management activities. Division of Animal Industry personnel provides support and coordination for these meetings and for the SART Advisory Board.

SART held its first statewide conference in the spring of 2007 with 225 individuals registered. The next conference is planned for March 25-27,

2009. The conference discussion topics will range from Foreign Animal Diseases to operating Pet Friendly Evacuation Shelters.

SART's Veterinary Emergency Treatment Services (VETS) program led by the University of Florida's College of Veterinary Medicine continues to grow and provides veterinary medical care for animals impacted by a disaster. It is similar in concept to the U.S. Army's old-style MASH units. Immediately following a disaster such as a hurricane, a VETS team in cooperation with private, state, and federal agencies would perform needs assessments in an impacted area. The team would assist veterinary hospitals and clinics, coordinate aid for private practitioners, and provide basic to moderate levels of animal care.

VETS is a cooperative effort of the College of Veterinary Medicine, the Florida Department of Agriculture and Consumer Services, and the Florida Veterinary Medical Association (FVMA). VETS began with grants from the FVMA, the Humane Society of the United States, the American Veterinary Medical Foundation, and PetSmart Charities. The support allowed VETS to purchase two three-quarter-ton, four-door, diesel, crew-cab pickup trucks and equip them for animal emergency services. VETS received in-kind support from Port-A-Vet, Webster Veterinary Supply, and Toshiba. The Florida VETS Project brochure is available at FVMA's web site, [www.fvma.com](http://www.fvma.com).

The development of county State Agricultural Response Teams remains a high SART priority. SART continues to purchase and stage emergency response trailers, supplies, and equipment; provide coordination and guidance on the preparation of multiple training modules

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and materials; and administer the SART web site and the numerous community outreach activities related to emergency management education. The division, with the assistance of the University of Florida, IFAS, published a Pet-Friendly Evacuation Sheltering Manual this year to assist counties with the goal of having plans in place for people and their pets to be accommodated at selected public evacuation shelters. This manual can be found on website [www.flsart.org](http://www.flsart.org).

The Division of Animal Industry, in coordination with the Florida Department of Health and the Florida Fish and Wildlife Conservation Commission, contributed to numerous Avian Influenza (AI) planning meetings as well as two state exercises. Division personnel also participated in local AI exercises.

Division personnel provided presentations at many conferences throughout Florida and in other states. These included the National Hurricane Conference, the South Florida Catastrophic Planning Project, the Governor's Hurricane Conference, the National SART Conference, and the Florida Veterinary Medical Association Conference.

Division personnel also attended and participated in multiple State Emergency Operations Center exercises, including a statewide hurricane exercise, radiological incident exercise, and a statewide food defense exercise.

In 2007 the Florida Veterinary Medical Association, the University of Florida College of Veterinary Medicine (CVM), and the Department joined together to establish a volunteer corps of veterinarians and veterinary technicians who will support relief efforts in an emergency or disaster involving animals and animal health in

Florida. The goals of the corps are to assess veterinary response capabilities in the impacted areas, provide emergency animal treatment in the aftermath of a natural disaster, and support disease surveillance and control efforts in combating devastating diseases affecting Florida's animal industry. Currently, there are 43 veterinarians and seven animal health technicians enrolled.

Scheduled during the October 2008 Florida Veterinary Medical Association's Annual Conference is a four-hour block of instruction pertaining to the state emergency management structure, SART, and the Florida Veterinary Corps.

### **Diagnostic Laboratories**

Due to Florida's unique geographic location, its close proximity to countries that have endemic diseases that are considered exotic or have been eradicated from the United States, the increased number of non-native animal species introduced into the state, and the presence of international ports in Florida, the state occupies a critical position in the nation's agricultural industry. Imported animals pose a constant threat for the introduction of classic or foreign animal diseases. The ongoing threat of terrorism also raises concerns about the state's vulnerability to deliberately introduced biohazards. To meet these challenges, the Department's Diagnostic Laboratories are staffed with veterinarians and technicians who are highly trained in a range of diagnostic disciplines, including bacteriology, virology, molecular biology, toxicology, parasitology, and pathology.

Many diseases are considered harmful to Florida's animal industry or to the general public. These diseases are listed as reportable to the Department. In addition to the monitoring and

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surveillance of animal diseases, the laboratories also provide thousands of tests each year to detect diseases of public health significance, such as West Nile Virus (WNV), Lyme disease, Rocky Mountain spotted fever, psittacosis (chlamydia), toxoplasmosis, giardiasis, salmonellosis, anthrax, leptospirosis, and many others. Rabies suspect animals that have been implicated in human exposure incidents are submitted to the laboratory for collection of samples which are then forwarded to human diagnostic laboratories at the Department of Health for rabies virus testing. The laboratory staff works closely with the Bureau of Animal Disease Control staff on disease surveillance programs.

The Diagnostic Laboratories at Kissimmee and Live Oak comprise a laboratory system certified by the American Association of Veterinary

Laboratory Diagnosticians (AAVLD) as an all-species, full-service laboratory to conduct diagnostic testing. AAVLD certification is recognized worldwide.

The Bureau of Diagnostic Laboratories received operating capital outlay funds for replacement equipment in the laboratories. Those funds were utilized to upgrade laboratory equipment and purchase biological safety cabinets, microscopes, PCR equipment, laboratory grade refrigerators, and other equipment to meet the demands of new tests. The Kissimmee Laboratory underwent an extensive electrical renovation that was needed to meet the new equipment demands and allow for future expansion. Funds were also received to initiate the process for phase two of the new campus master plan. The funding was utilized to construct a new shipping and receiving building. Construction of this facility is scheduled to be completed in September 2008. The site work preparation for a new necropsy laboratory suite has also begun.

During fiscal year 2007-2008, the Bureau of Diagnostic Laboratories tested over 417,000 submitted samples.

## **Kissimmee Animal Disease Diagnostic Laboratory**

The Kissimmee Animal Disease Diagnostic Laboratory, one of two laboratories in the State of Florida Diagnostic Laboratory System, is a full-service, all-species laboratory receiving domestic and exotic animal species with the exception of primates. A wide variety of tests ranging from full necropsy/anatomical pathology service to clinical pathology, histopathology, and immunohistochemistry are

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offered. Additional tests include microbiology (bacteriology/virology/serology), toxicology, and molecular diagnostics. During fiscal year 2007-2008, 85,985 samples were tested at the Kissimmee Laboratory.

The Florida Animal Disease Diagnostic Laboratories system has a Level 3 Biosafety Laboratory (BSL-3) at the Kissimmee Laboratory facility. This BSL-3 enables the bureau to provide rapid diagnostic procedures for diseases that are considered foreign in the United States, introduced either unintentionally or induced (bioterrorism), which could result in potentially devastating outbreaks. The USDA designated the Kissimmee Laboratory as part of a pilot system, the National Animal Health Laboratory Network (NAHLN), which was developed to provide increased homeland and domestic security both in Florida and the nation. This initial program identified 12 laboratories across the United States to augment the USDA National

Veterinary Services Laboratory in Ames, Iowa, and the USDA Foreign Animal Disease Diagnostic Laboratory at Plum Island, New York.

The initial target diseases are Exotic Newcastle Disease (END), highly pathogenic Avian Influenza (AI), Classical Swine Fever (CSF), African Swine Fever (ASF), Foot-and-Mouth Disease (FMD), Rinderpest, Contagious Bovine Pleuropneumonia (CBPP), Lumpy Skin Disease (LSD), and Vesicular Stomatitis (VS). Laboratory staff has received training on methods using new procedures in molecular diagnostics, including real-time reverse-transcription polymerase chain reaction (rt-RT-PCR). Currently the facility is certified by the USDA to run rt-RT-PCR for AI, END, CSF, and FMD. The laboratory has started surveillance for END, AI, and CSF as part of the NAHLN effort to detect foreign animal disease before outbreaks may pose serious problems to agriculture. This is a concerted effort between the Bureau of Animal Disease Control field staff, the Florida Animal Disease Diagnostic Laboratories, and the USDA. Laboratory staff members have been actively performing surveillance testing in high-risk bird populations that consist mainly of backyard flocks, exhibition birds, and other non-industry-related bird-rearing activities. Additional samples have been received at both the Kissimmee and Live Oak facilities for AI testing due to increased surveillance by the National Poultry Improvement Program and the Florida Fish and Wildlife Conservation Commission (FWC). The laboratories continue to test for West Nile Virus (WNV) infection, a mosquito-borne disease that has continued to be prevalent in Florida. Several tests such as antigen capture ELISA, traditional RT-PCR, rt-RT-PCR, and viral isolation are performed to diagnose infections with WNV. The Kissimmee Diagnostic Laboratory in conjunction with the Florida Department of Health





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monitors for WNV as well as the other mosquito-borne, arboviral diseases. Evaluating the spread of arboviral diseases in animals affords public health officials a barometer of impact to humans. New tests have allowed the laboratory to confirm the diagnosis of these diseases.

## **Live Oak Animal Disease Diagnostic Laboratory**

During fiscal year 2007-2008, the Live Oak Animal Disease Diagnostic Laboratory worked to gain infrastructure, training, and testing improvements aimed to better serve Florida's animal industries. These proposed enhancements are intended to position the laboratory to meet changing needs and allow flexible response for future demands. Live Oak Laboratory performs mainly Florida program testing for USDA-regulated program diseases – brucellosis, Equine Infectious Anemia, pseudorabies, Avian Influenza, Avian Mycoplasmas, Pullorum Typhoid, and Johne's disease. During this fiscal year, Live Oak Laboratory tested 331,301 samples. Results for many of these tests were reported to officials responsible for emergency eradication efforts or ongoing animal disease control programs. These were primarily for cattle, horses, poultry, and swine.

Poultry disease surveillance for the area broiler industry is a major component of sample submission and testing regularly conducted at the Live Oak Laboratory. These surveillance tests monitor birds for Salmonella, AI, and other disease entities critical to poultry production and economics. Ongoing regular submissions of diseased backyard poultry via Bureau of Animal Disease Control field operations yields surveillance samples that could provide early detection of diseases that could be very detrimental to Florida's poultry industries.

The laboratory staff worked closely with the Bureau of Animal Disease Control field staff and District veterinarians on numerous individual cases as well as several ongoing disease programs to assist in the early detection of monitored diseases and to provide surveillance for the emergence of new animal disease threats.

## **Feed, Seed and Fertilizer Feed Program**

Animal feeds are regulated using a network of six Department-certified laboratories located throughout the United States. Registrants, including ingredient suppliers, livestock feed and pet food manufacturers, and other distributors of commercial feed products, are required to submit samples of their products for testing based on the feed type and tonnage distributed in the state. Results from the certified laboratories are reported to the State Feed Laboratory, where compliance with Chapter 580, Florida Statutes, is determined and regulatory actions are initiated as appropriate.

In fiscal year 2007-2008, 722 companies were registered with the Department as distributors of commercial feed in Florida. A total of 2,413 samples were submitted and analyzed, with 57 violations in one or more categories. This represents an overall violation rate of 2.36 percent. Inspection, sampling, and laboratory evaluation oversight was conducted to verify compliance with the feed program. Eight consumer complaints were investigated, and 41 administrative fines totaling \$48,701 were collected for feed rule violations.

Bovine Spongiform Encephalopathy (BSE), widely referred to as "mad cow disease," continues to be the most critical feed-related issue. BSE is

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a progressive and fatal neurological disorder of cattle that is caused by infectious protein agents called prions. The disease was first identified in 1986 in the United Kingdom, but it was not detected in the United States until December 2003, when BSE was diagnosed in a single dairy cow in Washington State (the cow had been imported from Canada). Subsequently, two additional cows, one in Texas and another in Alabama, were confirmed to have BSE in 2005 and 2006. In each case, swift government intervention prevented the infected cattle from entering the animal feed or human food markets.

Variant Creutzfeldt-Jakob Disease, a chronic and fatal neurodegenerative disease that affects humans, is assumed to be linked to the consumption of beef products contaminated with the BSE agent. The U.S. Department of Health and Human Services and the U.S. Department of Agriculture have implemented measures to protect the public from health risks associated with BSE and to prevent the spread of the disease in U.S. cattle. The Department continues to pursue funding from additional sources to enhance existing surveillance and laboratory analysis programs related to BSE prevention.

To ensure that this disease does not develop in Florida, the Bureau of Compliance Monitoring extended its contract with the U.S. Food and Drug Administration (FDA) to conduct inspections of feed manufacturers, distributors, transporters, salvagers, and ruminant feeders. The inspections are intended to prevent the establishment and amplification of BSE by ensuring that no prohibited mammalian protein products are used in feed for ruminant animals such as cows and sheep. A total of 350 BSE inspections were completed under the 2007 contract agreements,

and 330 inspections are contracted for the 2008-2009 fiscal year. In May 2007 the Feed Section secured additional funds to enhance its feed analysis and inspection program where animal feeds are tested for materials prohibited by FDA's ruminant feed ban using polymerase chain reaction (PCR). This new technology uses a DNA amplification technique to isolate and amplify any bovine proteins present and potentially prohibited from use in sampled feed products. In fiscal year 2007-2008, 342 animal feeds were tested for the presence of bovine proteins using PCR.

### Seed Program

The seed program is administered to ensure that Florida consumers have a source of high-quality seed for planting that meets or exceeds state and federal standards. Samples of agricultural, vegetable, and flower seed are collected and analyzed for purity, germination, and compliance with Chapter 578, F.S. Commercial seed samples are tested on a fee basis to determine seed quality for accurate labeling or planting information.

During fiscal year 2007-2008, 3,042 Seed Dealer Licenses were issued and 2,964 official seed samples were collected. Laboratory personnel analyzed 2,966 official, special, and commercial seed samples, requiring 54,771 determinations. Based on analyses, it was determined that 27.6 percent of the official samples were mislabeled and 3.7 percent were illegal.

The division continues to play a vital role in controlling the spread of the invasive noxious weed tropical soda apple. During this fiscal year, the seed laboratory identified 14 seed lots contaminated with this prohibited noxious weed seed. The result was the stop-sale of 43,700 pounds of contaminated agricultural seed destined for planting in Florida and the Southeast.

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The Department continues to inform stakeholders about the severity of tropical soda apple infestations and educate them on control and management practices. An additional 134,290 pounds of agricultural seed was removed from sale due to laboratory analysis confirming the presence of other noxious weed seed, including field bindweed, Texas millet, and wild radish.

Laboratory analysis also resulted in the stop-sale of 167,800 pounds of agricultural and vegetable seed due to germination below the minimum standard allowed under 5E-4.006, Florida Administrative Code. An additional 90,000 pounds of oat seed were determined to be in violation of Chapter 578.24, F.S., and subsequently stop-sale. Another 52,400 pounds of field seed were stop-sale after laboratory analysis determined contamination with weed seed in excess of 2 percent by weight, a violation of Section 5E-4.004, Florida Administrative Code.

The increased usage of genetically enhanced seed in Florida agriculture – predominantly corn, cotton, and soybean seed – is confirmed through the division's seed sampling and regulatory program. Additional analyses were performed on 93 samples of genetically enhanced seed to verify the presence of an herbicide tolerance trait.

The Seed Investigation and Conciliation Council serves to assist farmers and seed dealers in determining the validity of complaints made by farmers against seed dealers and to recommend cost damages in those cases involving failure of the seed to produce as represented by the label on the seed package. In fiscal year 2007-2008, the council received seven new complaints, of which six are currently pending.

The Department also cooperates with the USDA's Agricultural Marketing Service in enforcement of the Federal Seed Act. During this fiscal year 26 official seed samples, representing seed shipped via interstate commerce into Florida, were submitted for inclusion in Trueness-To-Variety trials. Results of these field trials may conclude with enforcement action by the Seed Regulatory and Testing Branch of the Agricultural Marketing Service.

### **Fertilizer Program**

The fertilizer program stands out as one of the most progressive programs in the country. Official samples of commercial fertilizer and agricultural liming materials are collected by our field staff throughout the state and analyzed to ensure they meet the standards established in Chapter 576, F.S. The Department's Fertilizer Laboratory continually searches for, or develops, new methodologies to meet the evolving needs of the Florida consumer in the areas of nutrient availability in controlled-release fertilizers and micro-nutrient solubility.

At the direction of the Governor in 2005, the South Florida Water Management District and the Florida Department of Environmental Protection developed the Lake Okeechobee and Estuary Recovery Plan. In conjunction with this plan, the Department was tasked with revising the nutrient labeling standards for fertilizer use in urban settings. Fertilizer Rule 5E-1.003(2) Fertilizer Label Requirements for Urban Turf, Sports Turf or Lawns went into effect on December 31, 2007. The rule requires labeling revisions for fertilizer products intended for homeowner lawns, sports turf, and urban turf. These changes are intended to protect Florida's water resources from non-point source pollution from turf fertilizers by limiting the application of nitrogen and available phosphate.

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The Fertilizer Material Assessment Advisory Group scientifically evaluates all new fertilizer materials before they are permitted into the Florida marketplace and used in Florida's delicate environment. No new materials were reviewed by this group during the fiscal year.

The Fertilizer Laboratory also analyzes commercial samples on a fee basis to determine compliance with label guarantees. There were 4,856 fertilizer samples analyzed during the fiscal year, of which 1,103 were found to be deficient in one or more plant nutrients. The laboratory performed 214,502 determinations on these samples. The overall deficiency rate was 22.7 percent. Because of excessive deficiencies, licensees were placed on probation, and penalties and fines totaling \$400,450 were levied, with \$307,719 of that total returned to consumers. There were 509 licenses issued for the sale of fertilizer in Florida. Additionally, 1,694 brands and grades of specialty fertilizers were approved for distribution. Nearly 1.5 million tons of mixed fertilizer and fertilizer materials was reported sold in the state. The fertilizer laboratory also performed 11,412 analyses for non-guaranteed trace metals in 212 fertilizer products, of which none exceeded the established tolerances.

The fertilizer laboratory also provides analytical support in the development of nutrient best management practices. In March 2008 the laboratory achieved accreditation from the National Environmental Laboratories Accreditation Conference (TNI) for its non-potable water analyses. TNI is a non-profit organization whose mission is to foster the generation of environmental data of known and documented quality through an open, inclusive,

and transparent process that is responsive to the needs of the community. The NELAC standard is recognized nationally and internationally as the standard for assessing the quality and competence of environmental analytical testing. In fiscal year 2007-2008 the laboratory analyzed 205 environmental water samples for nutrient content for other divisions within the Department. There were 4,909 determinations performed on these samples.

## Agricultural Water Policy

### Best Management Practices

The Department, through the assistance of the Office of Agricultural Water Policy (OAWP), has produced a number of Best Management Practices (BMPs) for water conservation and water quality. BMPs are practices or combinations of practices based on research, field-testing, and expert review, determined to be the most effective and practicable on-location means, including economic and technological considerations, for improving water quality in agricultural and urban discharges.





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The process of developing BMPs includes the agricultural industry, Florida Department of Environmental Protection, water management districts, and environmental community stakeholders, with assistance from OAWP staff.

Implementation of BMPs adopted by Department rule and verified effective by the Florida Department of Environmental Protection (DEP) affords producers a presumption of compliance with state water quality standards for the target pollutants. BMP implementation also makes producers eligible to receive cost share assistance, as available. OAWP staff and OAWP-funded implementation teams work throughout the state to assist producers in selecting and implementing the BMPs applicable to their operations. Approximately 3,213 agricultural producers representing almost 2 million acres of agricultural land are participating in OAWP BMP programs.

During fiscal year 2007-2008, OAWP completed a BMP manual by rule for sod statewide, finalized a manual for cow-calf operations (soon to be adopted), and initiated manuals for equine and specialty fruit and nut farms. Staff has also been working with DEP to conduct BMP effectiveness verification projects to evaluate the extent to which selected BMPs protect water quality.

## **State and Federal Cost-Share Programs**

In order to assist agricultural producers in implementing BMPs, OAWP has developed working partnerships with various state and federal agencies. Through these partnerships, cost-share reimbursement is available for growers to implement BMPs that are otherwise cost-prohibitive. Currently, the OAWP has active agreements with USDA-NRCS, St. Johns River Water Management District, Suwannee River Water Management District, Southwest Florida Water Management District, South Florida Water Management District, and several of the state's Soil and Water Conservation Districts and Resource Conservation and Development Councils in order to administer these cost-share programs. During this year, staff worked to consolidate many of the Department's BMP implementation and cost-share programs to provide greater efficiency and delivery of service.

## **BMP Implementation Follow-up**

This year OAWP published an Implementation Assurance report to track the implementation of BMPs throughout the state. The report, which is based on surveys and site visits, provides information on producer implementation of BMPs identified on Notices of Intent (NOIs) submitted to the Department under various BMP rules. The report findings focused on growers

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who have submitted NOIs to implement BMPs in the Indian River and Ridge citrus regions, the Suwannee River Basin, and the Lake Okeechobee Watershed. Other commodities and areas of the state will be covered on a staggered schedule.

### **Field Staff and Technical Services**

OAWP has field staff co-located with the five Water Management District offices throughout the state. They help growers with BMP implementation by providing assistance with state and federal programs, conservation planning, and cost-share application information, among other things. Field staff plays a vital role in ensuring that BMPs are implemented as designed, and helps conduct follow-up inspections on grower fields. Field staff has also participated in DEP's total maximum daily load (TMDL) program during the establishment of TMDLs and the development of Basin Management Action Plans (BMAPs) to implement TMDLs. OAWP's role in the BMAP process is to ensure that agriculture is adequately represented, and that agricultural impacts to water quality are appropriately addressed.

### **Regional Partnerships**

**Suwannee River Partnership:** The Suwannee River Partnership was formed in 1999 as a coalition of state, federal, and regional agencies, local governments, and private industry representatives working together to reduce nitrate levels in the surface waters and groundwater within the Suwannee River Water Management District. The partnership continues to assist dairy, poultry, and row crop farmers with BMPs and conservation plans. This year staff worked with affected agencies and interests to develop a draft rule to allow implementation of Conservation Plans as a means to reduce water quality impacts from animal operations and obtain a presumption of compliance with state water quality standards.

**Northern Everglades and Estuaries Protection Program:** The Lake Okeechobee Protection Program was established by the 2000 Legislature to restore and protect the lake. Staff worked with DEP and SFWMD to implement the Lake Okeechobee Protection Plan that was submitted to the Legislature in 2004. The recommendations included in the plan are designed to reduce phosphorus loads from agricultural operations and implement long-term solutions based on the lake's phosphorus total maximum daily load. In 2007 the Legislature expanded the scope of the program to include the St. Lucie and Caloosahatchee River watersheds, renaming it the Northern Everglades and Estuaries Protection Program. OAWP is working closely with DEP, SFWMD, and other stakeholders in this area to finalize River Watershed Protection Plans pursuant to legislative resource protection goals and directives.

### **Soil and Water Conservation Council**

The Soil and Water Conservation Council is a soil and water issues advisory body to the Commissioner of Agriculture. In addition to key agricultural producers, the council includes representatives from the five Water Management Districts, DEP, the University of Florida's Institute of Food and Agricultural Sciences, USDA-NRCS, the Florida Legislature, and the environmental community. The council's primary purpose is to make water policy recommendations to the Commissioner of Agriculture and to assist the Department with oversight of its key water resources programs.

### **Mobile Irrigation Laboratories**

For more than a decade, partnership-based mobile irrigation labs (MILs) have been operating throughout Florida. Presently, there are 18 MILs providing service in 50 counties. Of the 18 MILs, nine are agricultural and nine are urban.

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Recognizing the invaluable service that MILs provide to the state's agricultural industry, OAWP continues to administer cost-share through MILs (via partnerships with state and federal agencies), improve MIL services and programs throughout the state, and document related activities and water savings.

The MILs provide on-site water conservation assistance to the agricultural industry and the general public, under the coordination and administration of OAWP staff, the Water Management Districts, and/or the USDA/NRCS. This assistance typically includes site-specific irrigation system testing, diagnostics, irrigation scheduling, and/or recommendations for system upgrades or retrofits, consistent with the Department's BMP implementation and federal conservation planning programs. During this fiscal year, the Department received continued funding from the Florida Legislature to support the statewide MIL water conservation effort.

If fully implemented, the evaluation recommendations from these 18 MILs for fiscal year 2007-2008 would save a minimum of 3.23 billion gallons of water a year throughout the state. Of that amount, 2.9 billion gallons were attributed to the eight agricultural MILs. The cost to conserve water through MIL services is very competitive when compared to the costs to develop new sources of water.

#### **Florida's Agricultural Water Policy**

Staff has begun working to revise the nine key policies enumerated in Commissioner Bronson's "Florida's Agricultural Water Policy" document, which was originally released in July 2003. This revision is important in order to keep all recommendations in the document relevant, given the changing landscape of agriculture.

The document resides on OAWP's web site, [www.FloridaAgWaterPolicy.com](http://www.FloridaAgWaterPolicy.com), and outlines statewide agricultural issues associated with the supply, use, conservation, and allocation of the state's limited freshwater resources.

#### **Ombudsman Assistance**

OAWP staff provides third-party arbitration for growers unduly affected by regulations. Staff produces written reports based on scientific details and expert technical opinion in order to help the regulatory agency determine whether an agricultural activity meets statutory requirements for exemption from permitting. During this fiscal year, OAWP staff assisted in one case in Polk County to determine whether the activity was exempt pursuant to Section 373.406(2), Florida Statutes.

## **Agricultural Law Enforcement**

The Office of Agricultural Law Enforcement consists of the Bureau of Uniform Services, the Bureau of Investigative Services, and the Bureau of Administrative Services, dedicated to the protection of Florida's agriculture and food supply. The office supports all regulatory and law enforcement programs of the Department and engages in cooperative partnerships with many federal, state, and local law enforcement agencies throughout the state. It works to safeguard the agricultural industry from the introduction of devastating diseases and pests, to secure the state's borders, and to enforce criminal and civil violations occurring within state forests, criminal acts against consumers, and those crimes involving agriculture, horticulture, and aquaculture.

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The Florida Contraband Forfeiture Act authorizes the Office of Agricultural Law Enforcement to seize and forfeit real and personal property, including currency, vehicles, aircraft, and other articles that are used in violation of the act. In addition, the office conducts joint law enforcement ventures with federal agencies that result in the seizure of cash and property.

An accreditation program has long been recognized as a means of maintaining the highest standards of professionalism. Accreditation is the certification by an independent reviewing authority that an entity has met specific requirements and prescribed standards. The Office of Agricultural Law Enforcement is currently accredited by the Commission for Florida Law Enforcement Accreditation, Inc.

### **Bureau of Uniform Services**

The Office of Agricultural Law Enforcement's interdiction stations are Florida's first line of defense in the protection of its agriculture. The

Department operates 23 agricultural inspection stations located on all paved highways crossing the natural boundary of the Suwannee and St. Mary's rivers, including one station located on Interstate 10 at the Florida/Alabama line. Agricultural vehicle inspections are conducted at each location around the clock, 365 days a year, by 215 law enforcement personnel and a support staff of five individuals.

These officers support and supplement all of the Department's regulatory and law enforcement programs by conducting inspections of highway shipments of agricultural, horticultural, aquacultural, and livestock commodities. These regulations and programs ensure compliance with Federal-State Marketing Agreements as well as laws, rules, and regulations enacted to make certain the public receives quality food products. Programs are also designed to prevent, control, and eradicate specific plant and animal pests and diseases that could economically devastate segments of Florida's agricultural industry.



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The state's border security is one of the four cornerstones in Florida's domestic security initiative. The increased vigilance of the Department's law enforcement officers has strengthened Florida's surface border protection. The implementation of the plan has resulted in the following:

- Performing interdictions/inspections of all commercial traffic and rental trucks entering and exiting the state.
- Tracking vehicles transporting dangerous cargo entering all interdiction stations.
- Utilizing real-time imaging of documents to track movement of agricultural commodities and livestock entering and exiting the state of Florida.
- Utilizing mobile gamma ray technology to enhance detection of plants, pests, or animal disease, and safeguarding Florida against agroterrorism and contraband smuggling.
- Utilizing canine (K-9) teams, specially trained to detect illegal plant and animal material; these specially trained dogs detect animal and plant materials that may harbor infectious diseases that could be harmful to Florida's farming community as well as to public health.
- Maintaining a 24-hour, toll-free hotline to report suspicious inbound or outbound commercial vehicles, as well as other agroterrorism issues.

Increasing staffing at all interdiction stations post September 11, 2001, has resulted in the identification of over 625 illegal aliens who attempted entry through concealed means as well as the recovery of \$27 million in contraband, including narcotics, currency, and stolen property.

Implementation of a camera system at key locations with tag recognition software that enhances bureau personnel's ability to detect suspect carriers.

To facilitate movement of commercial highway traffic, the Office of Agricultural Law Enforcement continues a public/private partnership with the Florida Department of Transportation and private enterprise, to provide commercial carriers with the PrePass™ electronic identifier which may allow some vehicles to bypass interdiction stations, reducing station traffic and allowing Department officers to concentrate their efforts on specific carriers of agricultural, horticultural, aquacultural, and livestock commodities.

During fiscal year 2007-2008, Department officers conducted 10,034,032 vehicle inspections that detected 9,106 violations which resulted in 225 arrests, 5,572 warnings, 3,220 administrative actions, and the apprehension of 89 illegal aliens. Officers also seized illegal narcotics currency and recovered stolen property valued at \$2.1 million.

During times of natural disasters, bureau officers function as members of Florida's Mutual Aid Response Team, participating in relief efforts to ensure that devastated areas receive adequate law enforcement protection.

The Department also cooperates with federal, state, and local governmental agencies on projects, both criminal and non-criminal, which either improve the efficiency of agricultural programs or generate additional revenues to the state without increasing costs to Florida's citizens.

Department officers collected and provided the Florida Department of Revenue with 57,472 bills of lading pertaining to certain types of cargo entering Florida. These efforts resulted in an additional

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\$11,055,105 in sales and use taxes being collected by the state during fiscal year 2007-2008 that would have otherwise gone uncollected. This cooperative effort not only greatly enhances the state's ability to collect sales and use taxes but also precludes out-of-state contractors and businesses from gaining an unfair competitive advantage over Florida entrepreneurs. Since the inception of the program in April 1993, this cooperative effort has resulted in the detection and collection of over \$163 million in otherwise undetected sales and use tax.

### **Bureau of Investigative Services**

The Bureau of Investigative Services is one of three designated bureaus in the Office of Agricultural Law Enforcement and provides investigative and technical support to the Bureau of Uniform Services and Bureau of Administrative Services in daily operations.

The bureau provides investigative support for all divisions of the Department in both civil and criminal matters over which the Department has jurisdiction.

The bureau works closely with all local, state, and federal agencies, providing investigative assistance and support in all matters over which the Department has jurisdiction, and is directly involved in safeguarding the public in issues relating to homeland security.

#### **Bureau Mission**

The mission of the Bureau of Investigative Services is to provide a safe and secure environment for the citizens of this state by: protecting consumers against unfair and deceptive trade practices, protecting the state's diverse agricultural industry

from theft and other related crimes, preserving and safeguarding the wholesomeness of food and other consumer products, and protecting the state's natural resources.

To safeguard the public, the bureau aggressively investigates criminal complaints, seeking appropriate judicial intervention to resolve the complaint and prevent future acts of wrongdoing.

#### **Bureau Responsibilities**

The responsibilities of the Bureau of Investigative Services are as follows:

- The investigation of matters over which the Department has jurisdiction and incidents occurring on property owned, managed, or controlled by the Department of Agriculture and Consumer Services.
- The enforcement of criminal and civil violations occurring within state forests or any crimes involving agriculture such as farms or farm equipment, animals, livestock, poultry, and any crimes involving horticulture, aquaculture, or citrus products.
- The enforcement of environmental crimes such as illegal dumping, and laws governing outdoor open burning. All personnel in the bureau are trained in fire and arson investigations, and investigate fires occurring in wildland and urban areas.
- The enforcement of laws governing consumer issues including illegal telemarketing operations, sale of business opportunities, solicitations of contributions, sellers of travel, motor vehicle repair fraud, health studios, dance studios, pawnshops, moving and storage companies, and price-gouging.

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- Developing and processing criminal intelligence information, conducting crime analysis of reported crimes, conducting research of persons suspected of committing crimes, and conducting background investigations of prospective employees of the agency.
- Providing personal protection services for the Commissioner of Agriculture and other dignitaries as needed.

### Domestic Security

The Bureau of Investigative Services is actively involved in issues relating to domestic security and actively participates in all seven regional Domestic Security Task Forces statewide.

The bureau has two positions assigned to Florida's joint response team under the direction of the Department of Environmental Protection. The team, which is represented by several state agencies, is trained in the response to and investigation of biohazard incidents statewide.

The bureau continues to conduct threat assessments of regulated entities affiliated with fertilizer, pesticide, food, and petroleum production and distribution points. It also investigates theft, shrinkage, and suspicious activities regarding these materials.

In addition to these duties, the bureau is engaged in a cooperative partnership with all federal, state, and local agencies in all 67 counties, providing investigative support in all matters over which the Department has jurisdiction.

### Personnel and Staffing

The Bureau of Investigative Services currently operates with a total of 52 full-time employees and one half-time employee. Over the past five years, the bureau has made organizational

changes to meet operational needs. Significant changes include:

- Establishing the seven regions of operation with one new lieutenant's position.
- Establishing a second captain's position to enhance supervisory capability.
- Restructuring the Conservation and Recreation Land (CARL) program and establishing a lieutenant's position to supervise CARL operations.

As depicted in the table below, from July 2003 to June 2008, there has been no significant increase in personnel.

	2003	2008
Chief	1	1
Captains	1	2
Lieutenants	6	8
Investigators	23	24
CARL	10	15
Civilian	2.5	2.5
Total	43.5	52.5

The increase in the number of uniformed Officers assigned to state lands through the CARL program has allowed the bureau to redirect activities of several investigative personnel who were assigned to state lands full time. This has allowed the bureau to enhance productivity in other program areas in the Department.

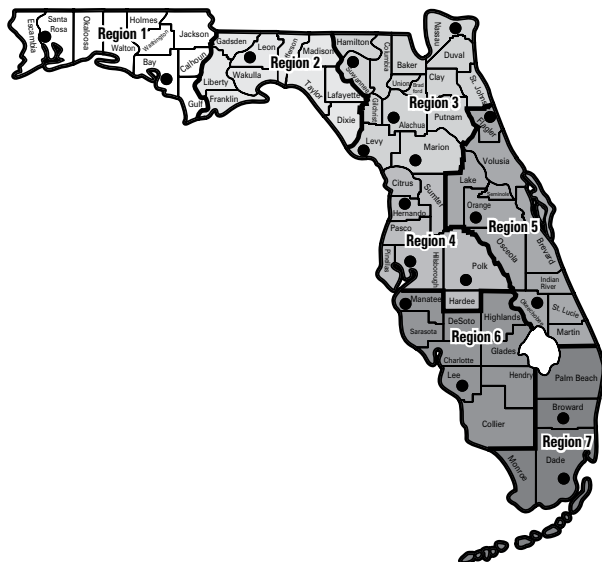
### Operational Regions

The bureau is divided into seven regions of operation, with each region having a Commander responsible for operations. The bureau currently has 18 field offices throughout the state for investigations. In addition, each CARL officer has

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an office provided by the Division of Forestry on or near their assigned area. This map depicts the current Investigative Offices and Regions:



### Bureau Performance Measures

Each year the bureau is given a set standard by which the overall performance of the bureau is measured. The established performance measure for the bureau is based on the number of investigations initiated and the number of investigations closed.

During fiscal year 2007-2008, the approved standard for the bureau was 1,995 investigations initiated, with a closure rate of 80 percent. During this reporting period, the bureau initiated a total of 2,982 investigations, with a closure rate of 110 percent. The number of investigations initiated includes investigations conducted by CARL officers on state lands. The high closure rate for this fiscal year is due to normal case closures of cases initiated during the report period, as well as closure of other ongoing investigations that carried over from previous years.

The following chart depicts an overall summary of the general categories used to classify investigations and the number of investigations conducted in each category by the bureau during fiscal year 2007-2008. General categories may have subcategories associated with them.

Animal / Livestock	73
Aquaculture	17
Arrest on Warrant	5
Background / Pre-employ	61
Bomb threat / Dest. Device	0
Burglary / Trespass	3
By Passing Ag Station	0
Consumer Related	188
Dignitary / Protective Ops	29
Drugs / Alcohol	41
Entomology / Pest Control	30
Environmental	2
Executive Investigations	1
Field Interview	0
Fire Related	899
Food Safety	22
Fruit & Vegetable	2
Illegal Aliens	1
Informational Only	48
L.E. Sensitive / Intel.	0
Licensing related	4
Persons	7
Plant Related	4
Special Details	1
Standards Related	19
State Lands Related	1,430
Theft	58
Traffic	35
Other	2
<b>Total Cases Initiated</b>	<b>2,982</b>



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### **Arrests, Notices to Appear, Civil Violations, Written Warnings, Field Interrogation Reports**

The following is a cumulative total of actions taken involving known violators:

Felony Charges Filed (Adult and Juvenile)	101
Misdemeanor Charges / Notices to Appear	241
Total Criminal Charges Filed	342
Administrative / Civil Violations	560
Written Warnings / Field Interrogation Reports	725
Total Number of Actions Taken Involving Known Subjects	1,627

### **Restitution/Recovery**

The bureau has been directly involved in the investigation of or assisted in the investigation of significant drug seizures, recovery of stolen property, and the payment of restitution to the Department for expenses associated with investigative costs.

Restitution/recovery for fiscal year 2007-2008 including DEA cases	\$7,652,698
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### **Agricultural Environmental Services Issues**

This category includes entomology and pest control, feed, seed, and fertilizers.

The bureau currently has one full-time investigator assigned to the Division of Agricultural Environmental Services (AES). The investigator works AES-related issues on a statewide basis and has been very successful in the investigation and completion of both criminal and administrative complaints. The investigator is also assigned to the Florida Hazardous Materials Team, which is addressed separately.

In addition to being responsible for the AES program, the investigator is also called upon to respond to emergencies such as hurricanes and fire events, the state fair detail, and other special operations or protective operations as needed.

During fiscal year 2007-2008, there were 30 investigations initiated relating to Bureau of Entomology and Pest Control issues, most of which pertained to pesticides and persons engaged in unlicensed pest control.

The bureau continues to assist in the threat assessment of aerial applicators as it relates to domestic security, contacting all aerial applicators known to be licensed in the state and maintaining updated information.

### **Animal Industry and Livestock Issues**

This category includes the theft of livestock, the illegal movement of animals without proper health certificates and documents, suspected outbreaks of contagious and infectious diseases, Pet Law issues, and animal abuse issues.

During the reporting period, the bureau initiated 73 investigations relating to Division of Animal Industry issues, some of which crossed over to other divisions.

Animal cruelty and Pet Law violations were major issues coming to the attention of the bureau. The bureau worked with the Division of Animal Industry and local governments to investigate these cases and seek appropriate corrective actions and judicial intervention.

### **Aquaculture Issues**

This category includes aquaculture farm theft, lease trespassing, and regulatory issues such as illegal movement of products.

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The bureau has one full-time investigator assigned to the Aquaculture Program. This person is responsible for land patrol to ensure product quality and rule compliance, as well as water patrol of leases located in coastal waters throughout the state.

The State currently has aquatic clam leases in the Big Bend area, Cedar Key area, Lee-Collier County area, and the East Coast. During fiscal year 2007-2008, the investigator regularly traveled to each area at least once a month for land and water patrol. Despite two special events and the state of emergency relating to fires, a total of 1,294 hours was devoted specifically to the program, which resulted in a total of 22,861 patrol miles statewide, and 141 hours devoted to water patrol. During fiscal year 2007-2008, 163 food safety inspections, 581 compliance inspections, and 33 boating safety checks were conducted. Seventeen investigations relating to aquaculture issues were initiated.

The investigator also participated in a special investigation with the Florida Fish and Wildlife Conservation Commission concerning illegal sales of grouper. This investigation continues.

### **Consumer Protection Issues**

This category includes illegal telemarketing operations, sale of business opportunities, solicitations of contributions, sellers of travel, motor vehicle repair fraud, health studios, dance studios, pawnshops, and moving and storage companies.

The bureau enjoys a close working relationship with the Division of Consumer Services and conducts joint investigations of matters of

mutual concern. The bureau and the division have established an intake system for consumer complaint referrals to aid in tracking complaints and investigations.

Depending on the type of case, consumer-related cases are typically labor intensive, requiring in-depth investigations that include document and records research and crime analysis and, at times, innovative investigative techniques including covert operations. While the offenses investigated may originate in Florida with the suspect business, most victims are out of state, which requires the need to obtain sworn affidavits and document evidence from them to prove a case. Occasionally agents have to acquire actual product samples as evidence for court purposes to prove inferior product claims or fraudulent and deceptive practices.

During the 2007-2008 fiscal year, Consumer Services and AgLaw teamed up to address illegal and unlicensed telemarketing, conducting onsite inspections of known or suspected non-compliant operations. Unlicensed operations were given cease-and-desist orders by Consumer Services and given an opportunity to become compliant. Normally within a two-week period an unannounced follow-up visit was conducted and persons found to be in business without becoming compliant were criminally charged.

Similar actions were taken against motor vehicle repair shops found to be operating without proper licensing.

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The following chart depicts a summation of Consumer Services-related cases initiated by the bureau in this reporting period:

Business Opportunities	2
Credit Card Skimming	6
Dance Studios	0
Game Promotion	5
Health Studios	1
Identity Theft	4
Motor Vehicle Repair	23
Moving and Storage	11
Non Regulated	4
Organized Fraud	6
Pawn Shops	3
Price Gouging	0
Racketeering / RICO	0
Regulatory Inspection	16
Sellers of Travel	5
Solicitation Contributions	6
Telemarketing	96
Total Case Initiated	188

The bureau also reviews all incoming complaints received by the division relating to motor vehicle repairs for early detection of potential criminal activity. The information is stored in a database for historical reference. During the fiscal year, the bureau reviewed and processed 1,898 motor vehicle repair complaints.

### Forestry Issues

**Fire Investigations:** The bureau investigates outdoor open burning and wildland fires primarily associated with careless or reckless acts and arson. Other illegal fires, such as burning without authorizations and issues relating to safety regulations, are also investigated.

Fiscal year 2007-2008 experienced drought conditions resulting in increased fire activity.

The bureau investigated 899 fire-related incidents for cause and origin, which resulted in a total of 271 actions being taken involving known violators. Six adults and 16 juveniles were charged with arson/intentional-type fires, and 146 adults and four juveniles were charged with misdemeanor offenses related to careless/reckless-type acts. Four juvenile offenders were referred to diversion programs, and 82 written warnings were issued for non-compliance of rules which were deemed minor infractions.

The following chart outlines the categories of fires investigated:

Arson/Structure or Conveyance	6
Campfire	25
Children (Under 12)	6
Controlled / Certified Burn	17
Debris Burning	162
Equipment	21
Incendiary	113
Incendiary (Juvenile)	36
Lightning	51
Miscellaneous	36
Railroad	1
Smoking	5
Undetermined	184
Unlawful Burning (Non comp)	236
Total Cases Initiated	899

**State Lands Program:** The bureau provides law enforcement services on lands owned, controlled or managed by the Department throughout Florida. The Division of Forestry currently manages approximately 1.016 million acres of property.

The bureau strives to reduce criminal activity on state lands by a proactive patrol presence, seeking voluntary compliance in the enforcement of the laws and rules designed to protect the environment.

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The bureau currently has 11 uniformed officers assigned full time to patrol specific state forest properties. The bureau also assigns investigative personnel who patrol state lands on a regular basis.

During fiscal year 2007-2008, the bureau initiated 1,430 investigations related to state lands. CARL officers and investigators charged one felony offense and issued 14 misdemeanor violations, two misdemeanor traffic violations, 13 uniform traffic citations, 292 citations for non-criminal violations, and 338 written warnings.

The following chart depicts the categories of incidents and activities officers handle on state lands. In comparing this chart to the cases initiated chart, it is important to note that not all incidents require an investigative report.

Animal Related	44
Boating / Watersports	0
Burglary / Trespass	7
Camping / Day Use	270
Cultivation of Marijuana	26
Disturbances	23
Drug / Alcohol Related	213
Environmental	134
Found Property	22
Hunting / Fishing related	180
Motor Vehicle Crash	7
Injury / Death	15
Off road vehicle	116
Property Damage	54
Recovered Stolen Property	6
Search and Rescue	4
Theft / Vandalism	50
Traffic Related	244
Warrant Arrest	1
Weapons	7
Wildlife	7
Total Cases Initiated	1,430

In addition to their normal duties, CARL officers were required to respond to fires during the state of emergency, assist with special details such as the State Fair and domestic marijuana eradication, and assist in other operations due to heavy case loads and shortage of personnel. CARL officers were responsible for four juvenile felony charges and 64 misdemeanor charges, including 26 for fire/burning violations.

During normal patrol functions, officers perform compliance/safety checks and respond to issues and complaints, some of which may not warrant a report. The following chart depicts a cumulative total of the types of compliance and safety checks, complaints, and responses conducted by officers and investigators on patrol.

During the reporting period, the bureau devoted a total of 17,438.5 hours patrolling state lands, traveling a total of 207,458 miles.

Animal Health	1,641
Boating / Water Sports	902
Camping / Day Uses Checks	24,299
Disturbance / Nuisance	99
Drugs / Alcohol	167
Environmental	282
Hunting / Fishing	4,739
MV Accidents	13
Personal Injury	6
Property Damage	61
Search / Rescue	12
Theft / Vandalism	93
Traffic	2,280
Vehicle / Motorcycle	3,128
Wildlife	199
Other	285
Total	38,206



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### **Division of Standards Issues**

This category includes petroleum inspections, fair rides, and weights and measures.

During fiscal year 2007-2008, the bureau initiated 19 investigative reports related to the Division of Standards, the majority of which pertained to petroleum issues. The bureau has assisted the Bureau of Petroleum Inspection and the U.S. Secret Service with the checking of service stations in Florida for illegal skimming devices. The bureau is currently involved in several major investigations involving credit card scanning and use of stolen credit card information to purchase of fuel.

### **Florida State Fair Detail**

The bureau provided security services to the Florida State Fair in February 2008 to monitor and protect the Administrative Complex, which houses the bank and count rooms. This event required a 24-hour-per-day operation and lasted a total of 18 days. A total of six personnel and one supervisor were assigned to the detail on a daily basis.

The bureau also provided protective services to the Commissioner of Agriculture and other select dignitaries during their visit to the fair.

### **Domestic Marijuana Eradication**

During fiscal year 2007-2008, the bureau assisted the Bureau of Administrative Services in providing orientation and training opportunities to all law enforcement agencies throughout the state regarding information submission, reimbursement procedures, and investigative and detection techniques.

The bureau assisted the Bureau of Administrative Services in coordinating and completing eradication sweeps throughout

the state. In the sweeps, local agencies are designated as the lead agency, and the bureau provides assistance to help plan and carry out operations. These operations normally operate for an entire week at a time.

### **Bureau of Administrative Services**

The Bureau of Administrative Services is designed to provide organizational support to the sworn and civilian personnel of AgLaw. The bureau manages personnel, finances, records, property and evidence, supplies, the vehicle fleet, Department property, data services, computer support, training, hiring, and accreditation. The Bureau of Administrative Services contains all core functions vital to the daily operations of Agricultural Law Enforcement.

### **Accreditation**

On June 6, 2007, the Office of Agricultural Law Enforcement was awarded accredited status by the Commission for Florida Law Enforcement Accreditation (CFA). We have been working diligently to remain in compliance with all accreditation standards. AgLaw has added a Staff Inspections component, designed to objectively review organizational units. Staff Inspections involve the examination of all operations for efficiency, safety, effectiveness, policy and accreditation compliance, and adequacy of management controls.

### **Training**

The bureau's Training Section coordinates and delivers law enforcement and civilian training to all personnel, as well as other law enforcement agencies. The Training Section delivered over 7,000 contact training hours to sworn personnel and coordinated over 2,000 additional training

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hours utilizing outside training facilities. In addition to legal and ethics training, officers received training in high-liability areas such as firearms, defensive tactics, and use of force. Officers also received training on regulatory inspections, CPR/AED, DUI, and Spanish.

The Training Section partnered with the Federal Law Enforcement Training Center (FLETC) located in Glynco, Georgia, to offer Commercial Vehicle Counterterrorism Training held at the Pat Thomas Law Enforcement Academy. This course is designed to equip officers with the tools necessary to handle the increased threat in the homeland security environment.

In an effort to streamline the reporting process for our Field Training Officers (FTO), the Training Section has been working with Crown Pointe Technologies to create a new FTO software program. The design of this software platform incorporates the documentation of the skill sets that are required to be mastered by the officer in training during the eight week FTO process. The new program is scheduled to go live in the first quarter of the 2008-2009 fiscal year.

### **Domestic Marijuana Eradication Program**

In January 2005 the Office of Agricultural Law Enforcement became the pass-through agency for the Outdoor Marijuana Eradication Program through the U.S. Drug Enforcement Administration (DEA). In January 2008 the office assumed coordination of the Indoor Marijuana Eradication Program as well, and became the DEA's point agency for this program in Florida. This entails collecting data and providing reimbursement funds to local law enforcement agencies for both indoor- and outdoor-grown marijuana.



During fiscal year 2007-2008, the bureau collected statistical data from local law enforcement agencies around the state related to marijuana eradication missions. The following chart outlines a brief synopsis of accomplishments for calendar year 2007:

Outdoor Plots Eradicated	263
Cultivated Plants Eradicated	9,116
Bulk/Processed	
Marijuana Seized (in pounds)	199
Total Arrests/Charges Filed	107
Firearms Seized	13
Total Assets Seized	\$261,071

In comparison, the following chart outlines the accomplishments of the first six months of calendar year 2008.

Outdoor Plots Eradicated	73
Cultivated Plants Eradicated	6,638
Bulk / Processed	
Marijuana Seized (in pounds)	3
Total Arrests / Charges Filed	36
Firearms Seized	3
Total Assets Seized	\$2,980
Indoor Plots Eradicated	506
Cultivated Plants Eradicated	41,816
Bulk / Processed	
Marijuana Seized (in pounds)	3,201
Total Arrests / Charges Filed	533
Firearms Seized	186
Total Assets Seized	\$2,080,849

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### **Information Technology**

AgLaw Information Technology supports several proprietary applications within the Bureau of Uniform Services. The Bill of Lading (BOL) and Commerce Transport Imaging System (CTIS) programs are installed at all 23 Inspection Station locations. With CTIS, Florida is the only state in the nation able to track incoming and outgoing shipments of agricultural commodities, livestock, and plant material, archiving historical information on product origination and destination locations. The Bill of Lading is a joint interagency program which has imaged over one million documents for the Florida Department of Revenue for sales and use tax collections. Due to the success of this venture, collections of over \$163 million have been deposited to Florida's General Revenue fund over the life of this program.

A Tag Recognition System has been installed at all interstate locations and five side stations. This system documents every vehicle passing through these locations, providing a rapid verification of the time, date, and identity of every driver and vehicle that enters the stations. The program also images tags and sends queries to Florida Crime Information Center (FCIC) and the National Crime Information Center (NCIC), for possible criminal activity such as stolen vehicles, etc. A new module of the Tag Recognition System, due to go online in August 2008, will also document information on shipping containers which pass through the stations.

In addition, AgLaw Information Technology is responsible for the upkeep and maintenance of the Department's Emergency Operations Center. This site, located in the Rhodes Building in Tallahassee, includes redundant systems

for communications, video feeds, and video conferencing which are available to support field operations during disaster situations. The center is also available as a backup location to the State Emergency Operations Center.

Three full-time IT positions support over \$1 million in equipment, for approximately 300 personnel located at 23 Inspection Station sites and over 30 Investigative Office locations throughout the state.

### **Property and Evidence**

The Property and Evidence Administrator serves three primary functions: conducting the annual Department inventory, providing uniforms to officers, and managing evidence. The Department inventory is conducted yearly and involves traveling throughout the state to verify the locations of all AgLaw inventory items. The administrator also supplies approximately 250 officers with the uniforms and gear needed for their daily activities. In addition, the administrator manages the Rhodes Building Evidence Room while overseeing six other evidence rooms in the state, assuring that evidence is collected and stored within the guidelines and rules set forth in Florida Statutes and the Department's policy.

### **Records Management**

As of June 2007, AgLaw has created a functioning electronic records management system in compliance with law enforcement accreditation standards and Florida Statutes. The system helps maintain all records created by Department employees which includes paper, email, maps, books, tapes, disks, films, photographs, audio recordings, video/audio equipment needed for the public to view or listen to if requested regardless of physical form or characteristics that are made

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*From left: AgLaw Director Darrell Liford, Florida Agriculture Commissioner Charles H. Bronson, Lt. Colonel Lou Leinhauser, and Major Cheryl DeGroff-Berry with the AgLaw Honor Guard.*

or received pursuant to law or ordinance that is in connection with the transaction of official daily business by AgLaw. Over 17,000 items have been scanned into the system for retrieval by employees, including policies and procedures, policy acknowledgements and receipts, industry memoranda, personnel records, PrePass™, and workers' compensation forms. In addition, the Department's Equipment Management Inventory System (EMIS) fleet information is audited and updated monthly, based on processing vehicle logs for active, spare, and surplus vehicles.

### **Honor Guard**

The Office of Agricultural Law Enforcement debuted its first-ever honor guard at the 26th Annual Florida Police Memorial Service held in Tallahassee on May 5, 2008. The AgLaw

honor guard was established to represent the Department and its officers and their families at police funerals, parades, and other ceremonial occasions. The AgLaw Honor Guard has been in the making since 2005 when three representatives from the Office of Agricultural Law Enforcement attended an honor guard camp to learn about drills, casket watch protocols, color guard movements, flag etiquette, and various funeral protocols. It takes discipline and long hours of practice to master the honor guard's complicated maneuvers. It is now the policy of the Office of Agricultural Enforcement to provide honor guard tribute at the funeral of any AgLaw employee, active or retired, who was recognized in good standing at the time of death.



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## Plant Protection, Inspection and Certification

The Division of Plant Industry is the plant protection arm of the Department that works to detect, intercept and control plant and honey bee pests and diseases that threaten Florida's native plant and agricultural resources. The division maintains these functions through five bureaus:



- Pest Eradication and Control
- Citrus Budwood Registration
- Methods Development and Biological Control
- Plant and Apiary Inspection
- Entomology, Nematology and Plant Pathology

This fiscal year, the division encountered new challenges with the discovery of new pests and diseases such as red palm mite, fig whitefly, orange rust of sugarcane, and a new exotic scale of croton. The division continues to

address known pests and diseases, including huanglongbing (HLB) or citrus greening, citrus canker, Africanized honey bees, colony collapse disorder, gladiolus rust (in one production area), sudden oak death (one find in a nursery), and laurel wilt disease. The division is also on the lookout for new pests and diseases of agricultural importance such as fruit flies of economic importance, lime swallowtail butterfly, potato cyst nematode, pests and diseases in solid wood packing materials, *Septoria citri*, and light brown apple moth.

## Pest Eradication and Control

The Bureau of Pest Eradication and Control assists in the survey, control and eradication of harmful pests and diseases, particularly those affecting citrus. Headquartered in Winter Haven, the bureau operates from five tactically located field offices in citrus-producing areas: Winter Haven, Avon Park, Immokalee, Tavares, and Fort Pierce. The bureau performs survey and regulatory activities to carry out the mission of the Citrus Health Response Program (CHRP). This program was developed in cooperation with the Florida Department of Agriculture and Consumer Services, the U.S. Department of Agriculture (USDA), and the citrus industry to help mitigate the impact of citrus diseases, of which citrus canker and citrus greening are currently the most significant and potentially devastating to Florida's citrus industry. Efforts are directed to assist the industry with short- and long-term management, which will ensure a healthy Florida citrus industry today and in the future.

During the last fiscal year, 229,754 commercial acres were surveyed under CHRP. Over 81,760 commercial acres were surveyed for fresh fruit export. Certification is required when the fruit is

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intended for certain foreign and domestic market shipment. To comply with new regulations governing nurseries, commercial acreage and residential properties surrounding commercial citrus nurseries were surveyed to protect nursery trees from citrus diseases. During this fiscal year, 19,433 acres of nursery environs were surveyed, including 1,035 residential properties. CHRP surveys totaling 7,994 acres were also performed at growers' requests. The multi-pest survey project, a cooperative effort with the USDA, surveyed 120,566 selected acres to detect exotic citrus pests and diseases and monitor the incidence and spread of citrus canker, citrus greening, and its vector, the Asian citrus psyllid.

The bureau includes a regulatory function to work with industry to control the spread of pests and diseases such as citrus canker and citrus greening. Regulatory oversight includes registering companies to ensure they are aware of current rules related to the movement of regulated items, and the requirements for decontamination to control the spread of disease for the protection of Florida citrus. The regulatory function is presented in more detail in a later section of this report.

In summary, the bureau's function is one of support of Department efforts to ensure a healthy citrus industry into the future through survey and sampling, regulatory oversight, training, public education, gathering and reporting data for research efforts and working in conjunction with other bureaus and agencies on behalf of Florida's citrus industry.

### **Public Awareness and Education**

Pest Eradication and Control was very busy during the 2007-2008 fiscal year, participating in numerous citrus-industry sponsored or industry-

related public events. Some of these included: Citrus Expo, Packinghouse Day, Indian River Postharvest Workshop, Florida Citrus Packers Meeting, Greening Summit workshop and seminar, Crop Advisors Seminar, Florida Citrus Industry Annual Conference, Citrus Canker Task Force, and various other workshops. At the events, staff participated in presentations and/or distribution of materials.

A series of grower workshops were held throughout the summer and fall of 2007 in cooperation with other agencies to reach as many interested parties as possible with the latest information available on citrus canker, citrus greening, and the services that the bureau provides to assist growers. Presentations included updates on disease science, ongoing research, new guidelines and regulations for growing and shipping Florida citrus, nursery requirements, budwood certification, decontamination, greening and canker survey techniques, and citrus pest/disease management guidelines. Also provided were disease suppression techniques for the Asian citrus psyllid, citrus greening, and citrus canker. The workshops were hosted in Bartow, Fort Pierce, Immokalee, Arcadia, Sebring, and Tavares. With the joint participation of experts from the Department, the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), USDA, and industry, the sessions reached hundreds of interested parties with updated, valuable information.

Internally, ongoing training and refresher training seminars were provided for bureau staff in cooperation with UF/IFAS for greening and canker identification and sampling, and citrus psyllid scouting and collection. USDA provided additional specialized training for recognition of other citrus diseases, particularly

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citrus variegated chlorosis and leprosis. Some training sessions were conducted at various agricultural facilities, while others were held on-site in groves for first-hand observation by survey and regulatory inspectors. The regulatory department held a workshop to ensure personnel were informed of new fresh-fruit shipping regulations in preparation for the 2007-2008 harvest season. Training for residential survey was also required for inspectors who would be performing nursery environs survey throughout the state. Other ongoing training included workplace safety and health-related safety issues, mapping training for survey, and professional development for all employees.

## **Regulatory**

The regulatory branch enforces state statutes and division rules to prevent the spread of pests and diseases throughout the state. The artificial spread of disease organisms can be prevented. The regulatory branch educates citrus growers (commercial and residential) and regulates the movement of host plants, plant material, insect vectors, personnel, and equipment to help stop pest and disease spread. For the past several years, the regulatory section has concentrated its efforts on helping to monitor and protect Florida's citrus industry, including developing phytosanitary certification protocols that allow citrus fruit to enter interstate and export markets.

Because decontamination of personnel and regulated articles continues to be the best line of defense against the artificial spread of citrus canker, the regulatory branch is charged with inspecting all regulated entities to ensure that all parties are aware of and are following decontamination rules. Huanglongbing (citrus greening) also continues to spread throughout

Florida's citrus areas and its management and control are tremendously challenging to regulators and growers alike.

Compliance agreements are issued to citrus growers, caretakers, citrus harvesters, handlers, processors, and citrus packers to ensure that these companies or individuals are registered with the Department and are aware of the rules. Other documents are also issued to regulated companies in order to control the movement of citrus plant material as required, including harvesting permits, stop-sale and hold orders, emergency action notifications, and special permits. Reports of Violation are issued for non-compliance, with penalties that range incrementally from a one-time administrative warning to a \$5,000 fine and revocation of the violator's compliance agreement.



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New compliance agreements were issued for the 2006-2007 citrus fruit harvesting season in anticipation of the entire state becoming quarantined for citrus canker by a new federal interim rule. The compliance agreements were slated to remain in effect for the 2007-2008 growing season. However, with much uncertainty about how best to manage citrus greening disease, these compliance agreements were revised and re-issued in July 2007 in order to incorporate significant changes that allowed flexibility for growers in the development of customized disease management programs.

The earlier version of the grower compliance agreements included a new fresh-fruit application for participation, which was required to ship fruit to interstate and other restricted markets. The protocol required that all production units be registered and surveyed for citrus canker disease symptoms prior to harvest. If no symptoms were found after July 1, 2007, a citrus fruit harvesting permit could be issued. This was a required permit to harvest fruit for shipment to restricted markets.

This permitting process, which involved pre-harvest surveys and the issuance of time-sensitive harvesting permits, has caused personnel issues for the division for the last two fiscal years. In early 2007, the bureau was notified to prepare to scale down the CHRP Program and plan to lay off 200 people, but the layoff was later placed on hold when USDA agreed to provide temporary funding pending the establishment of a new federal rule, which was expected to be in place on or about October 1, 2007. After that date passed, and with the demand for fresh-fruit surveys mounting, the division again recruited help in order to meet the demand for citrus harvesting permits. Relief

came with the publication of the final federal rule on November 19, 2007, after the citrus harvesting season began.

In this final rule, USDA adopted the pest risk assessment for the interstate movement of asymptomatic citrus fruit, which eliminated the need to inspect citrus groves prior to harvest for shipments of fresh fruit to interstate markets. Under the new federal rule, all division survey and regulatory teams remained focused on commercial citrus groves and upon the regulation of harvesting operations. Federal counterparts (USDA-APHIS) within CHRP took on the task of regulating packinghouses, inspecting the fruit on the grading belts for canker lesions, and regulating the movement of citrus fruit for markets beyond the borders of Florida.

With the federal rule of November 19, 2007, now in place and in support of the shipment of asymptomatic citrus fruit to interstate markets, fresh fruit may once again be shipped to non-citrus producing states without the need for pre-harvest grove inspections. Staff reductions throughout the bureau have resulted in much smaller field offices, which have reduced the capacity of both the regulatory and survey departments.

During 2007-2008 fiscal year, 12,307 inspections were performed, 2,611 compliance agreements were issued, 38 violations were issued, \$6,000 in fines were levied, and 8,203 harvesting permits were issued.

The Division of Plant Industry and USDA continue to monitor the incidence and spread of citrus canker, citrus greening and its vector, the Asian citrus psyllid, through grower-requested surveys, nursery environ surveys, and randomized multiple-pest surveys.



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Citrus greening and its vector have been found in the majority of our citrus-growing counties and are now considered to be a much greater threat than citrus canker to the citrus industry in Florida. The Division of Plant Industry continues to work closely with Florida's citrus industry and with UF/IFAS to determine appropriate measures to allow profitable citrus production while trying to keep citrus greening and citrus canker in check.

## **Citrus Budwood Registration**

The 2007-2008 fiscal year will be remembered for new beginnings in Florida's Bureau of Citrus Budwood Registration. The establishment of new foundation budwood sources for Florida's citrus industry has happened before, but never under as dire circumstances as have led to the opening of the new foundation greenhouse facility in 2007 in Levy County near the city of Chiefland. The first Florida foundation grove was planted north of Haines City in 1959. It was replaced with a second foundation planting at Dundee in 1973, along with a subsequent foundation grove planting at Immokalee in 1989. Over the years, foundation trees have been kept at several secondary sites, such as Winter Haven, Ona, and south of Leesburg. All foundation trees are now located north of the citrus industry in new secure greenhouses isolated from citrus pathogens, their vectors, and citrus host threats present within the traditional boundaries of the commercial citrus industry. Geographically removing and protecting foundation budwood source trees outside of the industry became the division's first line of defense in having a healthy nursery industry in Florida. Budwood is the foundation of the nursery tree. For Florida's citrus industry to survive in an era when so many diseases threaten its economic existence, a grower's only option is to obtain nursery trees

that are not infected with citrus greening or any other citrus graft-transmissible pathogens.

The greenhouses were completed at the new Chiefland facility in late August 2007, with the office/headhouse construction scheduled for completion in 2008. The greenhouses comprise a total of 82,000 square feet with four separated sections. The facility's restricted-entry design requires anyone entering the greenhouses to pass through the office into a screen room where they are decontaminated prior to entering a double entry area with an air-curtain. This area leads to a central vestibule, with four separate access doors into four separated greenhouse ranges. The greenhouses are cooled with fan and pad evaporative cooling systems and all exposed areas are covered with an insect exclusion screen. Liquid propane-fired heaters and irrigation provide winter cold protection.

All trees are planted in the ground to maximize budwood production. The greenhouses have the capacity to hold a total of 1,180 trees. Four hundred of these spaces are dedicated to single clonal selections that function to preserve the germplasm and to parent subsequent propagations. The remaining 780 tree spaces are designated for budwood multiplication for the major commercial citrus varieties. Budwood is distributed from all available trees to registered citrus nurserymen, who in turn are able to start their own scion trees or increase blocks to keep their nurseries as self-sufficient as possible. The recommended budwood scheme for nurseries is for each individual nursery to set up a small number of registered scion trees in a protected greenhouse. The nursery's scion trees become the basis of all future propagation, as these scion trees provide budwood for increase blocks that

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are used to provide the majority of budwood used in nursery propagation. The scion trees are tested for various citrus graft-transmissible pathogens, including annual tests for citrus greening and citrus tristeza virus. Increase blocks are valid for a period of three years from budding. All budwood sources are required to be housed in secure enclosed greenhouses with monthly inspections by division inspectors in addition to the pathogen testing.

Eight hundred and fifty-one trees representing 311 different clonal selections have been planted in the Chiefland greenhouses, and the first limited quantities of budwood were distributed to commercial nurserymen on January 10, 2008. Over 41,000 total budeyes were cut for nurserymen during this first year of operation. In early January the temperatures at Chiefland dropped to the low 20s Fahrenheit, but temperatures in the 50s were maintained by running 50 percent of the heaters.

A second foundation facility is planned for Alachua County at Boston Farm, a UF/IFAS research unit north of Gainesville. This new facility will house the Citrus Germplasm Introduction Program that is now operated out of the division's Gainesville office. The budwood foundation backup at Boston Farm is planned to hold one accession of every Chiefland selection.

Although no greening disease was found in the Immokalee foundation greenhouses, budwood cutting was indefinitely suspended from the facility due to the proximity of citrus greening in an adjacent grove. One hundred twenty-one of the greenhouse-protected budwood trees were top-worked to rootstock varieties in order to provide the industry a clean source of seed material. Ten different rootstock selections are

now in one of the houses. During the eight years of greenhouse budwood production in Immokalee, 577,467 budeyes were distributed from the greenhouses. Prior to establishing the greenhouses at Immokalee, 1,113,462 budeyes were distributed from the original field foundation planting.

The pathogen testing of citrus stock will continue in Winter Haven, where proximity to the clean foundation stock will no longer be a concern. As nursery production increases, so does the demand for propagating material. The number of source trees increases to meet that demand. Five thousand ninety-three scion trees were registered this year, which was a 16 percent increase. The greater number of trees requires a greater number of pathogen tests; therefore, the bureau's laboratory had to become more efficient to keep up with the testing demands. The budwood bureau implemented real-time polymerase chain reaction (PCR) testing for citrus greening in October 2007 for foundation and scion source trees. Real-time PCR testing is more sensitive and cost effective than the previous tests. Real-time PCR gives the added benefit of being able to do multiple pathogen tests from one collection and one extraction. The bureau's laboratory and biological testing program was able to make 33,623 pathogen determinations this fiscal year.

Currently, there are some grower trends that may impact the nursery industry. Use of open hydroponic systems may result in earlier fruit production and a higher demand for nursery trees as higher tree planting density is envisioned. Mechanical harvesting may also change the way nursery trees are grown as higher-headed trees may require additional time

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in the nursery before planting. Nurseries have already expanded greenhouse capacities, and propagations reached 3.5 million this year (the highest production level in four years). The number of citrus nurseries has also increased, as several nurseries resumed production in new greenhouses at their previous locations. Several other nurseries were able to locate on new sites away from commercial citrus. Forty-two commercial citrus nurseries reported making propagations in 13 counties. All citrus nursery stock produced during this fiscal year has been required to be propagated in approved greenhouse structures. This is the first full reporting year under the new regulations for producing certified citrus nursery stock.

Hamlins and Valencias continue to be the most widely propagated varieties. Midsweet orange was the third most popular variety propagated, followed by ruby red and flame grapefruit. Swingle citrumelo has now been the number one rootstock for the past 20 years. Kuharske and Carrizo citrange were the second and third most popular rootstocks utilized.



## Methods Development and Biological Control

The Bureau of Methods Development and Biological Control was involved in several cooperative biological control programs during this past year, as well as technology transfer and other supportive functions for the division.

### Caribbean Fruit Fly

The Biological Control Rearing Facility (BCRF) continued production of the Caribbean fruit fly (*Anastrepha suspensa*), rearing approximately 67 million flies with an average larval and pupal yield per diet tray of 50,556. The revised method of stocking adult cages developed last year was continued. This provides for increased egg production throughout the entire cage cycle, which requires fewer cages to be online at a given time, saving material and labor costs. Various life stages were supplied to researchers at the University of Florida and the USDA, as well as for the Division of Plant Industry's alternative pesticide experiments, encompassing both soil drench and bait station technology.

### Diaprepes Root Weevil

Mass rearing of *Diaprepes abbreviatus* (a serious pest of citrus, ornamentals, and other crops) continued at the rearing facility to provide various life stages to researchers developing control strategies against this pest. Multiple diet cups were infested with 161,648 neonates, of which 20,206 were transferred to single cups. From these, over 11,787 pupated and emerged as adults. New field stock was obtained and introduced into the laboratory colony this year to enhance the gene pool and ensure high-quality insects for distribution. Demand for research specimens was reduced due to the increased focus on citrus canker and greening. However,

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over 13,000 eggs, 4,376 neonates, 4,646 grubs, 1,429 pupae, and 6,099 adults were shipped to 12 different researchers.

### ***Diaprepes* Root Weevil and Parasite *Quadrastichus haitiensis***

Biological control of *Diaprepes abbreviatus* was initiated in 1969 by the introduction of the parasite *Quadrastichus haitiensis* from Puerto Rico. The parasite was reared in Apopka and released in Indian River citrus areas. However, surveys conducted after these releases showed that the parasite was not established in Florida. It was reintroduced in 1998. Mass-rearing methods were developed and field releases of this parasite were started in late 1998. At present, the parasite has been established in several locations in Miami-Dade and Broward counties. During fiscal year 2007-2008, 1,417,100 *Q. haitiensis* were sent to 22 cooperators in Florida.

### **Phorid Flies, *Pseudacteon* spp.**

Mass rearing of the phorid flies *P. tricusps* and *P. curvatus* continued at the BCRF as part of a joint venture with the USDA to release these parasitoids as biological control agents against the imported fire ant, *Solenopsis invicta*. A third species, *P. obtusus*, was also released from USDA quarantine this year and mass rearing of this fly has begun as well. This endeavor encompasses personnel and resources from the division, USDA Agricultural Research Service (USDA-ARS), USDA Animal and Plant Health Inspection Service (USDA-APHIS), and several other agencies in many of the southern states. A USDA-APHIS cooperative agreement provides most of the project funding. Currently, 14 specially designed attack boxes are being used, and over 2.9 million flies of all species combined were produced this past fiscal year.

The USDA-APHIS Gulfport Laboratory continues to coordinate the field release efforts with various federal and state cooperators. During this past year, our facility supplied *P. tricusps* to six states and *P. curvatus* to nine states for release or research purposes. During the coming year, there is a plan to begin distribution of *P. obtusus* in addition to the other two species. It is expected that these phorid flies and additional species will become successfully established throughout the entire southeastern United States within the next three to five years. These various phorid flies will work together to help suppress the imported fire ant because they each attack a different size worker ant and at different times of the day. This should allow for a reduction in pesticide usage and give native ant species and other insects, as well as ground-nesting birds, reptiles, amphibians, and mammals, an opportunity to reestablish themselves in numerous environmental niches.

### **Cactus Moth, *Cactoblastis cactorum***

The BCRF continues rearing the cactus moth (*Cactoblastis cactorum*) as part of a cooperative agreement with the USDA to help combat this recently introduced pest. The overall goal of the program is to establish a barrier in the Florida Panhandle utilizing the sterile insect technique, whereby large numbers of sterile or partially sterile insects are mass reared and released to mate with the wild population, producing either no progeny, or sterile ones. This barrier will prevent the spread of the cactus moth from Florida, where it has become established, to the midwest and western regions of this country and into Mexico. If the geographic range of the moth expands westward, it will cause serious damage to the desert ecosystems and agricultural production of the southwestern United States and Mexico.



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The mass-rearing infrastructure necessary for the cactus moth program was completed this fiscal year. The facility reared over 35,493 moths on cactus cladodes and artificial diet during this past year for both colony maintenance and for sterile insect technique (SIT) field releases. Further investigations will also be conducted to try to manage diseases which commonly befall this insect when it is reared on artificial diet.

### **Pink Hibiscus Mealybug Biological Control Program**

A cooperative agreement with USDA was initiated in 2005 to provide a regional mass-rearing facility for the parasites and predator of pink hibiscus mealybug (PHM). The facility infrastructure was completed in April 2006. Several crops of



Japanese pumpkin, the preferred host of PHM, were grown in cooperation with UF/IFAS in Citra and Hastings and the USDA-ARS in Fort Pierce. The crops were successful, producing 4,532 pumpkins weighing 13,923 pounds. Subsequent crops will be grown in the summer and fall of 2008. The PHM biological rearing facility produced a total of 2,732,649 parasites (*Anagyrus kamali* and *Gyranusoidea indica*) and 83,655 predatory ladybeetles (*Cryptolaemus*

*montrouzieri*). Currently, there are 36 counties in Florida receiving parasites for release. A Standard Operating Procedure Project Manual for PHM production has been developed.

### **Tropical Soda Apple Biological Control Program**

A cooperative agreement with USDA continued for the rearing and distribution of the South American leaf-eating beetle (*Gratiana boliviana*) as a biocontrol for the noxious weed tropical soda apple (*Solanum viarum*). The objective is to rear as many of these beetles as possible and distribute them to locations around the state where the weed is prevalent. One problem in the production of the beetle is that the insect naturally goes into diapause over the winter months when temperatures are lower and day lengths are shorter. However, an active colony was maintained during the winter months by moving the colony indoors to a laboratory trailer with temperatures between 75 and 85 degrees F with artificial lighting, which simulated a 14:10 hour photoperiod. This allowed the program to start outdoor production with a larger amount of beetles in the spring than the previous year. This past spring, a third screen house was built at the Fort Pierce Farmers' Market to further assist in the rearing of the beetles. A full-time technician maintained the host plants and harvested the beetles each week. The beetles were given to government agencies and private individuals for distribution throughout Florida where tropical soda apple (TSA) is a problem. During this period, 22,429 adult beetles from this facility were released throughout Florida to help control TSA. An additional 480 adults, 362 pupae, and 400 larvae were given to other researchers to assist in their work. The Department sent program results to a central database that records similar activities by UF/IFAS and the USDA.

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### **Cycad Scale, *Aulacaspis yasumatsui***

Cycad scale (*Aulacaspis yasumatsui*) was first identified in Florida in Miami-Dade County in 1996. The infestation had apparently been present for one to two years or longer. This pest of cycads has since spread to at least 25 Florida counties, and heavy infestations have been reported from Alachua to Miami-Dade counties. In February 2002 the Division of Plant Industry collected the parasitoid *Coccobius fulvus* from infested cycads in the Naples area and released about 11,000 of these parasitoids in about 15 infested counties extending from the Orlando area south. Unfortunately, surveys during the past three years have indicated that *C. fulvus* from Thailand has not provided adequate control of Asian cycad scale populations.

During the search for natural enemies of cycad scale funded by UF/IFAS and the Division of Plant Industry, Dr. Ren Hui found *C. fulvus* in Guangdong, China. A parasite from Guangdong was collected and sent to the Gainesville quarantine laboratory in October 2004. A permit for release from quarantine was granted in June 2005. In early fall of 2005, 2,300 *C. fulvus* were released in the Gainesville area. *C. fulvus*, Chinese biotype, was found to be established in Alachua County. The survey of six Gainesville locations on November 13, 2007, showed that about 25 percent of cycad scales were parasitized by *C. fulvus* (range: 1.9 percent to 52.6 percent). No parasites were found in those locations prior to releasing in 2005. Additional shipments of cycad scale and natural enemies were received from Vietnam in March 2006 and from China throughout the fiscal year. Dr. Ru Nguyen (DPI) and Dr. Ron Cave (UF/IFAS) conducted a search for the natural enemies of cycad scale in Thailand and North Vietnam in

October 2007. Two parasites, *Aprostocetus purpureus* and *Arrhenophagus chionaspidis*, and a predator, *Phaenochilus* sp., were collected during that trip. According to Dr. Natalia Vandenberg, USDA-ARS, *Phaenochilus* sp. is a new species. Host range tests showed that this lady beetle is a good predator of armored scale such as *Aulacaspis yasumatsui* and *Aonidiella orientalis*, the magnolia scale, but it does not feed on aphids or mealybugs. Colonies of this ladybug are kept in quarantine laboratories in Gainesville and Fort Pierce. *A. purpureus* and *A. chionaspidis* were not effective predators on any target organisms, so they were not maintained in colony after host testing.

### **Asian Citrus Psyllid, *Diaphorina citri***

Division of Plant Industry personnel discovered Asian citrus psyllid (*Diaphorina citri*) at Boynton Beach on June 2, 1998. It had spread to 28 counties by 2001. It is one of the most efficient vectors of huanglongbing/citrus greening disease. In cooperation with UF/IFAS, two parasites of *D. citri*, *Diaphorencyrtus aligarhensis* and *Tamarixia radiata* from southern Vietnam and Taiwan were introduced in the Division of Plant Industry's quarantine laboratory on October 21, 1998, and a permit for field release of *T. radiata* was granted on July 12, 1999, and for *D. aligarhensis* on March 10, 2000. In fiscal year 2007-2008, approximately 23,500 *T. radiata* and 8,000 *D. aligarhensis* were reared and released from the Division of Plant Industry's laboratory. Monitoring of release sites at the end of 1999 indicated that *T. radiata* became established and dispersed to new locations in Boynton Beach and Fort Pierce areas. A statewide survey conducted by Dr. Juang-Hong Chong (USDA-APHIS) in 2006 found that *T. radiata* has been established in 23 counties south

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of Volusia County. However, a study conducted during 2005-2006 by Drs. P.A. Stansly, D.G. Hall, M.E. Rogers, and J.A. Qureshi in 28 commercial citrus groves across 16 counties in South and Central Florida reported that an average percent parasitism was less than 20 percent in spring and summer. This rate was lower than those in Reunion, Taiwan, Guadeloupe, and Puerto Rico. No hyperparasitoids of *T. radiata* were detected during the survey.

The division continues to monitor the effectiveness of these parasites and to search for new strains of those parasites in Asia. During the trip to Southern China in September 2006, Dr. Ru Nguyen (DPI) and Dr. Ron Cave (IFAS) collected a new biotype of *D. aligarhensis* in Guangzhou, Guangdong, China. A permit for field release of this biotype was granted by USDA-APHIS-PPQ on June 1, 2007. Mr. E. Rohrig, graduate student, University of Florida, is doing research on this biotype. In September 2007, Drs. Ron Cave and Ru Nguyen collected *T. radiata* in Bac-Ninh Province, northern Vietnam. This biotype of *T. radiata* has been reared in the division's Quarantine Laboratory, Gainesville. A request permit for field release of this biotype was submitted to USDA-APHIS-Plant Protection and Quarantine (PPQ) in December 2007.

### **Brown Citrus Aphid, *Toxoptera citricida***

Brown citrus aphid (*Toxoptera citricida*) was detected in Broward and Miami-Dade counties in November 1995 and has since spread throughout the Florida citrus-growing region. It causes economic losses by feeding on young citrus foliage and depleting sap. This aphid is one of the most serious pests of citrus due to its transmission of citrus tristeza virus. Adult *Lipolexis oregmae* from Guam were imported into the Department's quarantine laboratory on

August 19, 1999, and a permit for release of this parasite was granted on June 21, 2000. During fiscal year 2007-2008, 35,700 parasites were released.

### **Citrus Leafminer, *Phyllocnistis citrella***

*Ageniaspis citricola*, a parasite of the citrus leafminer (*Phyllocnistis citrella*) was imported from Australia and Taiwan and began to be released in May 1994 throughout Florida. This parasite has been established and is widely distributed. It provided a good control of citrus leafminer of citrus in Florida. The parasitism rates of this parasite in October 1996 were 80 percent on dooryard citrus and 60 percent in commercial groves. However, citrus leafminer populations were high in 2002, especially on young groves. To complement *A. citricola*, *Citrostichus phyllocnistoides* from Spain was introduced into the Division of Plant Industry's quarantine laboratory in July and August 2003. A permit application to release *C. phyllocnistoides* from quarantine was granted in May 2006 and subsequent releases initiated in Immokalee in June 2006. During fiscal year 2007-2008, 14,300 parasites were released. The parasite has not been found to be established in Immokalee yet, but it is abundant on citrus growing in Gainesville.

### **Lobate Lac Scale, *Paratachardina lobata***

Lobate lac scale, *Paratachardina lobata*, was first found in Broward County in 1999. This species, from India and Sri Lanka, has rapidly become a serious pest of several ornamental and native plants in South Florida. Cooperative efforts with UF/IFAS and USDA-ARS, Fort Lauderdale, are under way to secure and introduce parasites from its native land. Two shipments of *Kerria lacca*, a commercial lac scale collected from Thailand, were sent to the quarantine laboratory

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in October 2003 and March 2004. Six parasites and two predators emerged from the shipment in March. Among those parasites, *Coccophagus tschirchii* and *Tachardiaephagus tachardiae* were listed in the literature as primary parasites of *K. lacca* and lobate lac scale. Unfortunately, neither parasite could be reared on lobate lac scale in the quarantine laboratory in Gainesville. Several shipments of lobate lac scale were collected from India and sent to Fort Lauderdale Quarantine Laboratory in 2005-2007. According to Dr. Bob Pemberton, USDA-ARS, Fort Lauderdale, two species of parasites emerged from those shipments, but they couldn't be reared on lobate lac scale in Florida. Later, Dr. Pemberton said that DNA analysis of scales collected from India and Florida indicated that those scales are different. It is likely that the lobate lac scale in Florida is a new species. The search for natural enemies of lobate lac scale continues by USDA-ARS, Fort Lauderdale.

### **Citrus blackfly, *Aleurocanthus woglumi***

Citrus blackfly (*Aleurocanthus woglumi*), a serious citrus pest of Asian origin, was found in Fort Lauderdale in 1976. During the 1990s it was widely spread over Central and South Florida from Cross Creek to Key West. This pest has been controlled by releasing two parasitic wasps, *Encarsia perplexa* (*Encarsia opulenta*) and *Amitus hesperidum*, that were imported from Asia via Mexico into Florida in 1978. This pest has not created any problems for citrus in Florida during the last 20 years. A serious outbreak of citrus blackfly occurred in the Rio Grand Valley in Texas in 2005-2006 after a freeze killed all its natural enemies, especially *A. hesperidum*. In 2008 about 3,000 hectares of citrus in Tamaulipas, Mexico, were heavily infected with

citrus blackfly because of spraying insecticides. Many citrus trees are dying and fruits are poor quality. Because of these problems, colonies of citrus blackfly and its parasites, *E. opulenta* and *A. hesperidum*, have been reared in a laboratory at the Division of Plant Industry to meet the needs of Florida and other states. Recently, about 1,300 *E. opulenta* and 2,600 *A. hesperidum* were sent to Louisiana for the New Orleans citrus blackfly biological control project.

### **Alternative Pesticide Research and Other Technique Development**

The degree-day accumulation study was completed for eggs, larvae, and pupae of Caribbean fruit flies (*Anastrepha suspensa*) for inclusion in the national tephritid database. Each stage of an organism's development has its own total heat requirements, which can be estimated by accumulating degree-days between temperature thresholds throughout the season. Degree-day monitoring provides an approximation of when a pest will reach susceptible life stages, thus eliminating the guesswork otherwise required to determine the time for a control action.

New delivery methods for attractants are being developed to improve tephritid trapping and detection programs. Experiments were conducted with the USDA-ARS in Gainesville to evaluate the durability of a single matrix, three-component (cone) attractant under simulated Florida weather conditions. At three ranges of temperature and relative humidity chosen to mimic seasonal norms, the single-cone lure maintained its integrity within the trap during each six-week test. This cone was accepted for use in the Fruit Fly Detection Program.



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Mating tests were performed between laboratory-reared sterile Mexican fruit flies (*Anastrepha ludens*) and fertile Caribbean fruit flies (*A. suspensa*). The level of mating was highest in the Caribfly-Caribfly cages (~75 percent), and the incidence of mating in the cages that held Mexfly males and Caribfly females was nearly identical to that of the Mexfly-Mexfly cages (~55 percent). The Caribfly males were much less likely to be able to mate with the Mexfly females, due to the length of the Mexfly ovipositor, but successful mating did occur (~20 percent).

Research was continued with numerous pesticides from chemical classes with different modes of action in concurrent laboratory and field bioassays to find potential replacements for diazinon as a chemical soil drench for emergency programs to control fruit flies of economic importance. Any possible replacement must display efficacy similar to or better than diazinon, but should also be considered safer and less toxic to beneficial organisms and to human health. The candidates tested were GardStar (permethrin), Regent (fipronil), and Warrior (lambda-cyhalothrin).

Research was conducted in the development and preparation of artificial diets for larvae of *Cactoblastis cactorum* and for the lady-beetle *Cryptolaemus montrouzieri*, predator of the pink hibiscus mealybug.

### **Florida Accelerator Services and Technology (FAST)**

The project for the replacement of the Beam Centerline Guide is continuing, and scheduled replacement will occur in August 2008. FAST continues to provide irradiation services supporting research programs conducted by

the Department, UF/IFAS, USDA, Southern Missouri State University, Armstrong State University, and private industry. Products irradiated include salmon fillets, Brazilian pepper moth adults, potted plants, citrus greening DNA, plant tissue, polymer grafts, fruit fly life stages, insect diet, bee pollen, rice seed, cactus moth adults, *Diaprepes* insect diet, grass cuttings, and semiconductors.

### **Medfly Eclosion/Release Facility for SIT/PRP**

The Preventative Release Program continued the aerial release of sterile Mediterranean fruit flies to deter the establishment of introduced wild flies. This Medfly Eclosion/Release Facility in Sarasota will also provide reserves for a Sterile Release Program (PRP), should an infestation occur, and a start-up facility for other species of sterile fruit flies if available. Sterile Medflies were released over a 572-square-mile area, which included Miami-Dade, Hillsborough, Manatee and Sarasota counties, at a rate of 136,573 per square mile or a total of 78,119,756 per week. A total of 4,062,230,928 sterile Medflies were released during this reporting period.

Other projects originating at the facility included ongoing testing of new trap and lure combinations in various area citrus groves. Methods personnel continued to assist with the exotic pest surveys and research in cooperation with the Cooperative Agricultural Pest Survey. Tours of the facility were conducted for personnel from various areas and supervisors as requested.

The longevity mortality testing level has been higher than usual this year, at times rising to an unsatisfactory level. Research is ongoing to determine the underlying causal factors.

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### Apiary Research

Methods bureau personnel in collaboration with the Bureau of Apiary Inspection continue to work on control for several apiary pests. Some of the tests included: determining optimum varroa mite (*Varroa destructor*) economic treatment thresholds, powdered sugar efficacy trial, investigating the use of small cell foundation (5.1mm to 4.9mm) as a tool for varroa mite (*Varroa destructor*) control, and investigating the use of Certan B-401, *Bacillus thuringiensis* (Bt), for control of wax moths (*Galleria mellonella*) in Florida's apiary industry.



### Caribbean Fruit Fly Research and Activities

The bureau maintains three continuous Caribbean fruit fly trap lines using plastic McPhail type traps in portions of Indian River, Martin, and St. Lucie counties. These traps are serviced weekly and results show number of flies caught by sex, species, and condition of host plant. These results are tabulated for later reference concerning variations in the seasonal Caribbean fruit fly population. This data supports the Caribbean Fruit Fly Certification Program trapping information on fly populations in the urban area and is useful when conducting

tests that involve the use of biological control agents or other suppression/control programs. This data was also given to another agency that included it in their larger GIS program.

A study to search for unknown hosts of the Caribbean fruit fly continues. Many species of ripe fruit were collected from a number of fruit-bearing trees and bushes; these fruit were incubated to see what species of insects developed in them. While no new hosts for Caribbean fruit fly were discovered, new relationships of these fruits to other insects were discovered.

### Training and Compliance

Bureau personnel continued to provide training and testing for employees for Restricted Use Pesticide (RUP) licenses, coordinate employee applications and maintain records of continuing education units for those licenses, provide record keeping for Right-To-Know and Material Safety Data Sheet (MSDS) files, coordinate disposal of hazardous chemicals produced at the Division of Plant Industry, and provide security/monitoring of the Gainesville facilities.

### Meetings/Tours

The Methods Bureau was involved in a number of meetings, presentations, and tours during the last fiscal year. Some of these included: MOSCAMED (Programa de Erradicación de la Mosca del Mediterraneo) Program Tour, Guatemala City, Guatemala, January 4-8, 2008; PHM Biological Control Program Tour and Evaluation, Tepic, Mexico, June 8-15, 2008; Cactoblastis Bi-National Program Planning and Assessment Meeting, Pensacola, Florida, June 22-27, 2008; Ninth Exotic Fruit Fly Research Symposium, Fresno, Calif., April 25-26, 2007; Mexican Fruit Fly Annual Meeting, Weslaco, Texas, August 29, 2007; International *Cactoblastis cactorum* Conference (Cactus Moth),

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May 7-10, 2007; and Implementation of Biological Control Against Invasive Pests in Florida Oversight Committee Meeting, January 15, 2008.

## **Fumigation/Miscellaneous Activities**

Fumigation of specimens, books, reprints, and other materials, for the Florida State Collection of Arthropods continued at the Gainesville Division of Plant Industry and University of Florida fumigation chambers. Annual evaluations and certifications of methyl bromide fumigation chambers used for blueberry fumigation were conducted during this period.

Personnel conducted bioassays and bulk density determinations to comply with Imported Fire Ant Program regulations.

Bureau personnel often aid with document translation and tours of facilities to domestic and foreign visitors as well as daily oversight and support to employees and community organizations using Doyle Conner Building facilities.

## **Plant and Apiary Inspection Plant Inspection**

At the end of fiscal year 2007-2008, there were 7,904 nurseries (9,821 block locations) with an inventory of 517,158,703 plants classified as nursery stock. There are 3,414 nursery stock dealers (7,644 outlet locations) registered with the Department. Inspectors made 27,871 inspections of nursery and stock dealer establishments. As a result of these inspections, 272,372 plants were quarantined. There were 11,160 federal and 3,163 state certificates issued for shipments of plants and plant products exported from Florida.

Department personnel inspected 10,035 shipments of plants and plant products imported into Florida from other states and countries, including 1,313 shipments of nursery stock. These inspections resulted in 439 (121 for nursery stock) regulatory actions for plant pests of quarantine significance. A total of 7,681 soil and root samples were collected and analyzed specifically for burrowing nematodes as required by the Burrowing Nematode Certification Program. The Burrowing Nematode Certification Program has 1,137 ornamental nurseries under certification as of June 30, 2008.

Department personnel tended 217 gypsy moth traps in North Florida. Other seasonal traps include boll weevil traps and European corn borer traps. Department and USDA personnel tended more than 55,716 traps for exotic fruit fly detection.



## **Commercial Citrus Nursery Inspection Program**

As of June 30, 2008, there were 54 citrus-propagating nurseries certified and inspected on a 30-day cycle. These nurseries represent 228 greenhouse structures. This compares to 48 citrus propagating nurseries inspected on a 30-day cycle as of June 30, 2007. There are

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52 locations that are identified as commercial (certified free of burrowing nematode) citrus nurseries.

### **Pink Hibiscus Mealybug**

Between July 1, 2007, and June 30, 2008, Department personnel witnessed the destruction of 17,076 plants as a result of pink hibiscus mealybug (PHM). During this period, plant inspection personnel spent 3,666 hours working on PHM-related issues. There were 48 quarantine actions to nurseries and nursery stock dealers for PHM; and as of June 30, 2008, four of those locations currently have plants that remain under quarantine.

### **Sudden Oak Death**

*Phytophthora ramorum*, the causal agent of sudden oak death (SOD), ramorum blight, and ramorum die-back, is known to occur in landscape plantings in Europe and in coastal forests and has been detected in some horticultural nurseries in the United States. *Phytophthora ramorum* is one of a number of organisms (although not true fungi) that are collectively called "water molds." *Phytophthora* is translated to "plant destroyer," and most of the *Phytophthora* species are plant pathogens, many with extremely large host ranges.

During fiscal year 2007-2008, plant inspection personnel submitted 316 samples for SOD. Of these samples, three were positive for *Phytophthora ramorum*. Regulatory actions were taken at two nursery locations.

### **Gladiolus Rust**

*Uromyces transversalis*, the causal agent of gladiolus rust, is an obligate parasite that only grows and reproduces on members of the family Iridaceae, including *Gladiolus*, *Tritonia*, *Crocasmia*

and *Watsonia* spp. Gladiolus rust was confirmed to be present in the United States in April 2008. As of June 30, 2008, regulatory actions and eradication efforts continue at two locations in a cooperative effort between USDA and the Division of Plant Industry. Inspectors have spent 3,655 hours conducting surveys and control measures for gladiolus rust.

### **Violations and Stop-Sale and Hold Orders**

Between July 1, 2007, and June 30, 2008, division personnel issued four violations. There were 1,387 stop-sale and hold orders for failure to renew annual registration. During the same period of time, 120 stop-sale and hold orders have been released as a result of fee payment or going out of business. Bureau personnel also issued 47 stop-sale and hold orders for pests and diseases such as citrus canker, citrus greening, pink hibiscus mealybug, violation of Division Rule 5B-62, 5B-63, and restricted aquatic plants.

### **Caribbean Fruit Fly Certification Program**

The Caribbean fruit fly is a serious pest of many tropical and subtropical fruits of Central and South Florida. The fly-free zone certification protocol was developed to certify citrus fruit as free of Caribbean fruit fly larvae. Bermuda, Brazil, Colombia, Ecuador, Japan, Korea, New Zealand, Philippines, Thailand, the People's Republic of China, Vietnam, and the states of California, Hawaii, and Texas have accepted this certification procedure, which is fully funded by grower assessments. Fruit shipped to these areas must originate in specific Caribbean fruit fly controlled or designated areas in citrus-producing counties approved for shipment of fruit.

In the 2007-2008 season, 108,600 acres were certified in 22 eligible counties. The protocol establishes a safe and effective procedure for



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exporting citrus to areas requiring quarantine safeguards. Japan is currently the largest importer of fresh Florida grapefruit. This season 7,266,404 cartons of citrus fruit were shipped to Japan under the protocol certification program.

### **Boll Weevil Eradication**

At the close of the 2007 cotton-growing season, there were 326 commercial cotton producers in the state. These producers planted 83,254 acres of cotton in 12 counties, a decrease of 16,882 acres from the 2006 growing season. Throughout the 2007 cotton-growing season, there were no boll weevils trapped in the state.

### **Imported Fire Ant Certification Program**

As of June 30, 2008, there were 2,464 nurseries and stock dealers under compliance agreement for Imported Fire Ant (IFA) certification purposes. This compares to a total of 2,125 nurseries and stock dealers under compliance on June 30, 2007. During this period, plant inspection personnel spent 8,246 hours associated with IFA activities.

### **Apiary Inspection**

In the fiscal year 2007-2008, of the 186,345 honey bee colonies maintained by registered Florida beekeepers, there were 49,757 colonies inspected from 2,414 apiaries. Compensation in the amount of \$3,480 was paid to beekeepers for 196 honey bee colonies destroyed because of infestation of American foulbrood disease. There were 111,318 colonies that moved into Florida from 19 different migratory states and 131,099 colonies shipped to 19 different states.

The Apiary Section has educated over 6 million citizens, tourists and businesses in Florida and world wide on the importance of honey bees and their place in agriculture, and how to effectively cope with Africanized honey bee (AHB) challenges.



### **Honey Bee Health in Florida**

The division's Apiary Inspection Section is a founding member of the Colony Collapse Disorder Working Group along with collaborators from Pennsylvania State University, Pennsylvania Department of Agriculture, USDA-ARS, and North Carolina State University. The immediate shock of massive honey bee colony deaths labeled as colony collapse disorder has morphed into the larger and equally complex question of honey bee health: How can this indispensable component of agriculture and the environment be kept viable and productive?

Many people naturally connect honey bees with the food product, honey. While it is a popular product, honey is simply a byproduct of the pollination process. Pollination is the most fundamental and important part of agriculture production and adds significantly to the environment. Thirty percent of the typical daily diet is the result of honey bee pollination. Without pollination by honey bees, there would be virtually no watermelons, cucumbers, or squash, and citrus and blueberry production would decrease dramatically.

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After closer examination of honey bees, scientists have found that the pests, parasites, and diseases introduced from outside of the United States continue to be identified as primary honey bee stressors.

External and internal honey bee mite parasites have weakened managed honey bee colonies and virtually eliminated feral European honey bee populations. Chemical miticides provided to control these destructive parasites may have negative long-term effects on honey bee populations.

Introduced pathogens such as *Nosema ceranae* and viruses such as the Israeli Acute Paralysis Virus (IAPV) have limited control methods and have been implicated in honey bee health declines. Incomplete nutrition afforded honey bees confined to pollinate and forage on large expanses of agricultural mono-crops, along with nutritionally incomplete artificial diets, weaken honey bees and their immune systems. Agricultural pest and disease chemical controls applied topically or systemically on crops can unintentionally negatively impact the beneficial honey bee. The growth of our state is crowding out various parts of the agriculture sector. Hive locations for beekeepers are becoming more limited. During the 2007-2008 season, a survey conducted by the Apiary Inspectors of America found that approximately another 36 percent of honey bee colonies perished. Honey bee colonies continue to loose vitality. The situation is dire and will require continued cooperative efforts between science and industry.

### **Africanized Honey Bee**

In April 2008 the first human Africanized honey bee fatality in Florida occurred due to a massive stinging incident. This strain of exotic introduced honey bee is firmly established in many parts of

South Florida and is moving north. The apiary section continues to monitor approximately 500 Africanized honey bee traps to track movement of this dangerous insect. The apiary section has led in the coordination and presentations of Africanized honey bee education outreach programs. Over 6 million Florida citizens and visitors have been educated, along with many state, county, and municipal departments and authorities.

The Africanized Honey Bee Identification Laboratory continues to operate under a backlog of samples submitted by apiary inspectors, the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), pest control operators, and concerned citizens.

Best management practices for beekeepers continue to be offered to registered beekeepers as a way to maintain manageable honey bee colonies and not be considered a public nuisance.

The Department has partnered with UF/IFAS on two levels for a comprehensive approach to Africanized honey bee training. The first level involves the training of first responders, fire departments' emergency rescue personnel, and police in AHB stinging incidents and the rescue of victims. The second level has been the creation of the African Honey Bee Extension and Education Program (AFBEE) at UF/IFAS by Dr. James Ellis. This program is designed to provide Florida residents, government, and business with safety and eradication recommendations for Africanized honey bee.

The division in coordination with other stakeholders (agriculture, state, county, and local government agencies, UF/IFAS, first responders, schools, hospitals, and others) continue to

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develop tools and training materials to protect the beekeeping industry and educate the public on how to safely and effectively handle this potential danger. The feral bee population continues to be dominated by AHB in Florida. The Department is doing everything possible to avoid additional AHB human fatalities in Florida.

## **Apiary Research Activities**

Dr. Amanda Ellis was brought in to oversee and direct internal state-funded apiary research projects for 2007-2008. Reports have been prepared on the following projects:

- Determine optimum varroa mite (*Varroa destructor*) economic treatment thresholds and powdered sugar efficacy trials.
- Investigate the use of small cell foundation (5.1 mm to 4.9 mm) as a tool for varroa mite (*Varroa destructor*) control.
- Use of Certin, B401, *Bacillus thuringiensis* (Bt), for control of wax moth (*Galleria mellonella*) in Florida's apiary industry.
- Identification of a diet supplement to improve honey bee health.

Additional appropriated funds were distributed to the following projects:

- Entombed Pollen: A New Phenomenon in Bee Hives; Dennis vanEngelsdorp, Pennsylvania State University.
- African Honey Extension Education; William H. Kern Jr., University of Florida/Institute of Food and Agricultural Sciences.
- Hygienic Removal by Honey Bees of Parasitic Varroa Mites: Identifying Genetic Loci Responsible for the Trait; Dr. H. Glenn Hall, University of Florida.

- Effect of Honey Bee Queen Insemination Quantity on Supercedure Rates in Florida; Christina Grozinger, North Carolina State University.
- Increasing Africanized Honey Bee Awareness via the AFBEE; Dr. Jamie Ellis, University of Florida/Institute of Food and Agricultural Sciences.
- The Sub-lethal Effects of Imidaclopid and Amitraz on Honey Bee, Susceptibly to Varroa Mites, Dr. Jamie Ellis, University of Florida/Institute of Food and Agricultural Sciences

## **Apiary Industry Status**

The commercial apiculture industry continues to struggle with honey bee health issues, low honey sales, loss of habitat, loss of agriculture, and loss of apiary sites in Florida.

Varroa mites continue to be the most significant concern in regard to overall honey bee health. Controlling mites without damaging honey bees or colonies is still a challenge.

Honey as produced on a commercial scale is a commodity, and in such a market structure the low-cost producer wins the commodity competition. Low-cost Asian honey producers dominate the market. The honey-only production is not a successful business model for Florida beekeepers.

Economic pressures continue to make it difficult to keep tracts of land in agricultural production, leading to loss of habitat and agricultural locations for bee keepers. Florida is a popular state for relocation, making agricultural land more valuable for real estate development. This decreases the area beekeepers can use for pollination and placing their hives.

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The pollination business model encourages Florida beekeepers to regularly move their hives out of state. Many crops – such as almonds, cranberries, blueberries, and apples that are grown in vast acreage outside of Florida – specifically require honey bees for pollination to produce a crop. Commercial beekeeping operations leave Florida annually to participate in fee-based pollination of many such crops.

### Entomology, Nematology and Plant Pathology

#### Entomology

The entomology section completed 12,440 separate identifications this year involving 341,042 specimens. During that same period, 10 exotic species were found established within the state, all representing new U.S. records. There were also nine new state records.

No old records were entered into the database, but all the old Paradox records were combined into a single Access database with 138,480 records.

#### Significant New Arthropod Records

##### Lepidoptera

*Dryadula terpsichorella* Busck (Tineidae), dancing moth (from Hawaii). Discovered in Jacksonville in June 2007 and Gainesville on December 28, 2007. It only feeds on dead plant debris.

*Comotia torsicornis* Dyar (Pyrilidae), collected in Homestead on sapodilla (*Manilkara zapota*) on May 8, 2008. This species has been known only from the holotype from Panama, which was described from a specimen considered to be in poor condition. The larvae feed on the sapodilla flowers, causing loss of fruits.

##### Acari

*Acunda plectilis* (Eriophyidae) was found on *Distichlis spicata* in Levy County and was originally described from the same host plant in California in 1965. No reported damage from feeding by this mite.



*Epitrimerus trilobus* (Eriophyidae) was found on *Sambucus canadensis* in Palm Beach County, where it was causing leaf curling and puckering. This mite was previously known from California and Georgia.

##### Hemiptera

*Singhiella simplex* Singh (Aleyrodidae) was found on *Ficus benjamina* in Miami-Dade County on August 3, 2007. The fig whitefly was previously known from India and Burma, and this find was noted as being a new U.S. continental record. The whitefly readily established in South Florida and was additionally found in Broward and Palm Beach counties on *Ficus* species.

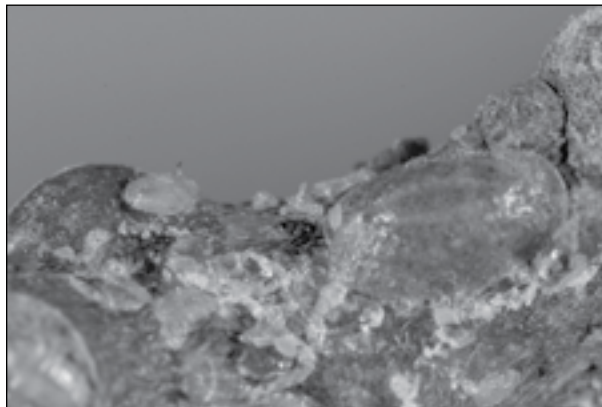
A new-to-science (new genus, new species) soft-scale (*Coccidae*) was found on *Codiaeum variegatum* in Monroe County on April 9, 2008. A manuscript naming this scale insect is in the process of being published. This find will constitute a new U.S. continental record once a scientific name is in place. The new soft-



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scale insect has been found to be established in Broward, Collier, Miami-Dade, and Palm Beach counties on various host plants.



### Florida State Collection of Arthropods

Donations to the Florida State Collection of Arthropods totaled more than 206,765 specimens, valued at \$1,264,890. This brings the total number of specimens to well over 8 million. Fourteen guided tours and presentations were given this year, with more than 190 students and adults participating. For fiscal year 2007-2008, 37 student and professional visitors used the collections.

### Biological Control Research and Containment Laboratory

The Biological Control Research and Containment Laboratory (BCRCL) at the University of Florida Indian River Research and Education Center (a facility shared by UF/IFAS and FDACS-DPI) released under federal permit approximately 2,000 *Lixadmontia franki* (Diptera: Tachinidae) to help control *Metamasius quadrilineatus*, a pest of bromeliads in Florida. The Florida Biological Control Laboratory (a facility shared by FDACS-DPI, UF/IFAS, and USDA-ARS) released approximately 2,500 *Neomusotima conspurcatalis* (Lepidoptera: Crambidae) under federal permit

to help control old world climbing fern. It has been reported that *N. musotima* is well established at its release site.

The BCRCL received new arthropods that are being researched under quarantine conditions and regulations: *Amblyseius* sp. mites that could be a biological control of red palm mite; and *Ambia* sp. that could be a biological control agent for old world climbing fern.

Work proceeds on testing possible biological control agents previously brought in under permit to control old world climbing fern, *Melalueca*, tropical soda apple, cycad scale, Asian citrus psyllid, *Metamasius* bromeliad weevil, Brazilian pepper, and others.

### Fruit Fly Identification Laboratory

Annual refresher training classes for the recognition of fruit flies of economic importance were conducted throughout the state for field personnel as well as for all new and temporary duty assigned personnel. Approximately 250 combined personnel (division plant inspectors and USDA-APHIS-PPQ fruit fly survey specialists) serviced more than 55,000 total traps on 14- and 21-day intervals as part of the Florida Cooperative Fruit Fly Detection and Surveillance Program. A total of 1,222,448 trap inspections were conducted during the fiscal year 2007-2008. Of the traps inspected, 231,784 or 19 percent of all fruit fly traps serviced were submitted to the Fruit Fly Identification Laboratory (FFIL) for further screening for suspect flies.

Approximately 1,442,583 sterile Mediterranean and wild Caribbean fruit flies were screened and processed during this time in support of the Cooperative Sterile Preventive Release Program and the Caribbean Fruit Fly Free Certification Program. There were 187 dissections performed

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### Fruit Fly Finds 2007 - 2008

Date	Location	Species	Sex	Quantity
07/09/07	Valrico	<i>Bactrocera dorsalis complex</i>	M	1
11/27/07	Pompano Beach	<i>Ceratitis capitata</i>	F	1
12/04/07	Orlando	<i>Bactrocera dorsalis complex</i>	M	1
12/20/07	Orlando	<i>Bactrocera dorsalis complex</i>	M	1
02/29/08	Orlando	<i>Bactrocera correcta</i>	M	1
06/20/08	Winter Park	<i>Bactrocera dorsalis complex</i>	M	2
<b>Total</b>				<b>7</b>

to confirm sterility of suspect Mediterranean fruit flies from the preventive release areas and there were 107 instances where suspect target economic fruit flies were sent to the FFIL for urgent identification.

Between July 2007 and June 2008, seven fruit flies of economic importance to Florida were detected and identified in Florida.

The Winter Park fruit fly delimitation program is still ongoing and is currently projected to end on September 24, 2008, at the completion of the third lifecycle. Due to successful early detection and eradication efforts, no economically significant fruit flies have become established in Florida during fiscal year 2007-2008.

#### Advanced Diagnostics Laboratory

The Advanced Diagnostics Laboratory (ADL) processed a total of 7,034 samples during 2007-2008, including 2,325 regulatory samples. Various molecular, biochemical, and other analytical techniques were used. Regulatory sample processing is detailed below.

Detection and identification:

- Identification of plant pathogenic bacteria including those responsible for citrus greening and citrus variegated chlorosis and phytoplasmas.

- Identification of plant viruses including poty-, tospov-, potex-, tobamo-, badna-, caulimo-, gemini- and other virus species.
- Taxonomic diagnosis of *Phytophthora ramorum*, the pathogen responsible for sudden oak death, as well as other *Phytophthora* species.
- Molecular taxonomic analysis of various fruit flies including those of the Oriental fruit fly complex.
- Testing for soil formulation compliance as mandated by the Imported Fire Ant Certification Program.

Citrus Health Response Plan related activities:

- Continued the development of fluorescence *in situ* hybridization (FISH) microscopy to visualize the putative greening agent, [*Candidatus*] Liberibacter asiaticus *in planta*. FISH visualization, together with the ongoing histological analysis of greening in citrus vascular tissue, allows the mapping of the distribution and abundance of this pathogen in the host.
- Continued the development of protocols for the detection of *Xylella fastidiosa*, the causal pathogen of citrus variegated chlorosis, and

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strain determination using visual microscopy, scanning electron microscopy, immunocapture-PCR, and DNA sequencing targeting r16s and VNTR (variable number of tandem repeats) loci.

- Initiated the development of diagnostics for phytoplasmas in citrus and began a preliminary survey for these pathogens in Florida.
- Continued the development and implementation of molecular diagnostics for citrus leprosis and psoriasis viruses.
- Initiated a general molecular screening approach for proteobacteria in citrus as part of a strategy to detect novel non-cultural pathogens *in planta*. This includes the development of a FISH-based fluorescence microscopy strategy in addition to PCR-sequencing.

Noteworthy plant viruses identified or confirmed by sequence analysis at the ADL:

- Sida golden mosaic virus (Geminivirus). This is the first find of this virus on a *Phaseolus* host.
- A potentially new potyvirus found in *Passiflora*.

In addition, many tomato samples were diagnosed with tomato yellow leaf curl virus (Geminivirus).

Sudden oak death, also known as ramorum blight, caused by the fungus *Phytophthora ramorum*, continues to be periodically detected in Florida nurseries. Confirmation of ramorum blight by the ADL is based upon DNA sequence analysis.

### Botany

For fiscal year 2007-2008, the Botany Section processed 8,849 samples. In addition, 390 specimens were added to the division's herbarium, bringing the total size of the collection to 10,125. The number of vials in the seed collection remains at 1,469.

The Botany Section is participating in a project to provide forest health training material to the Division of Forestry, and at the same time adding specimens to the herbarium. Staff are collecting samples of Florida Exotic Plant Pest Council-listed invasive exotic plants and preparing herbarium specimens, two for each species for Forestry, and one for the herbarium. So far, staff members have collected 37 species. This is an ongoing project, and sheets will be delivered to Forestry as they are prepared.

Dr. Patti Anderson is participating in developing the Lucid Palm Resource, a project in cooperation with the USDA. When completed, the project will provide interactive keys to the identification of the palms cultivated in the United States and the Caribbean islands, and to their pests. Dr. Anderson is working on the palm identification key and has greatly expanded the palm section of our herbarium. She has attended USDA workshops in Miami and Raleigh, N.C., to learn techniques for developing the key.

Dr. Richard Weaver is working on a revision of the text of the Division of Forestry handbook, Forest Trees of Florida. Dr. Anderson will construct an identification key.

Dr. Anderson is the managing editor of Tri-ology, a bimonthly summary of interesting or significant records of plants, arthropods, and diseases identified and processed during the period. Staff

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members have eliminated a large backlog of issues, and all of the issues are now available for interested parties to read online.

Dr. Weaver is nearing completion of a revision of the fifth edition of Notes on Florida's Endangered and Threatened Plants. This was last revised in 2003, and 18 species have been added to the endangered list since then. There are also numerous new county records, references, and illustrations to be listed.

### **Citrus Germplasm Introduction Program**

The Citrus Germplasm Introduction Program (CGIP) is responsible for processing new and interesting imported citrus varieties to make them safe for use by Florida citrus nurserymen, growers, and researchers. The program is currently located in Gainesville and consists of an office/headhouse (600 square feet), four greenhouses (3,800 square feet), and shared laboratory space. CGIP applies therapeutic treatments of shoot-tip grafting and thermotherapy to eliminate graft-transmissible pathogens and produce healthy budwood sources necessary for clean citrus budwood programs. All therapies are followed by indexing procedures to validate negative pathogen status prior to the release of each new variety. Therapy and treatments will vary depending on the source of budwood and the risk of its infection. High-risk germplasm is generally infected with one or more pathogens and requires both shoot-tip grafting and heat therapies, full-indexing and testing, which is an estimated 30- to 35-month process. Meanwhile, low-risk germplasm is a candidate for expedited-type protocols that require only a single therapy, reduced-indexing and testing, and may be completed within 12 to 24 months.

Eight new citrus selections have been submitted for approval to enter the introduction program this year. The selections originate from Texas A&M University; they are genetically modified, transgenic, carrying the SoD2 gene which expresses the spinach defensin protein, and is capable of causing resistant reactions to citrus canker and greening. Research will be needed to verify resistance by these selections, as well as their horticultural qualities. The varieties include Hamlin sweet orange and six selections of Rio red and ruby red grapefruits.

Twenty-two varieties were released, after no pathogen was detected following complete therapy and indexing. Ten of these selections originated from budwood sources infected with either citrus tristeza virus or citrus viroids. Releases included 10 mandarins of which nine are proprietary varieties from the University of California or the Citrus Marketing Board of Israel, six hybrid murcotts developed by the University of Florida, three sweet oranges, one grapefruit, one navel, and one satsuma. Eleven varieties entered the program as high-risk germplasm and averaged five years until release. Three varieties were treated as low-risk germplasm and averaged 18 months. Nine Florida selections infected by severe strains of citrus tristeza virus or previously exposed to canker, also averaged 18 months until release. Meanwhile, 96 selections remain in the program at various stages of introduction.

The Florida citrus industry has faced many new disease and pest challenges during the past five years. In 2005 it became evident that all field-grown citrus were at risk of infection by citrus pathogens now spreading throughout Florida, including stem-pitting citrus tristeza virus and



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the bacteria causing citrus canker and greening. Although disease cleanup for Florida-grown citrus is generally performed by the Bureau of Citrus Budwood Registration in Winter Haven, the bureau could not risk introducing exotic new citrus diseases to their facility and therefore an alternate plan was necessary. CGIP's quarantine facility offered a secure environment to maintain the pathogen-infected and pathogen-exposed germplasm in while conducting therapy to clean up the valuable Florida citrus selections. A 16-week thermaltherapy treatment effectively eliminates severe strains of citrus tristeza virus. Unfortunately, thermaltherapy has not been proven effective for inactivation of Florida HLB (citrus greening), the most difficult pathogen to deal with at this time. HLB is cryptic, often present without causing symptoms, difficult to test for yielding false negatives, yet still capable of transmission to new citrus hosts by its very efficient psyllid vector. Due to HLB's phloem-limitation, shoot-tip grafting is the most efficient method of therapy available for its removal. Shoot-tip grafting is a versatile therapy and when performed successfully is capable of removing all citrus pathogens.

The Florida citrus industry favors increasing the number of new varieties released by CGIP each year, as well as a shorter turn-around time for introduction. The industry is in need of new disease-resistant varieties that are productive, marketable, and profitable to grow.

Criteria for achieving safe and successful importation and introduction include: (1) a reliable source of healthy germplasm; (2) a facility to retain and grow newly grafted plants, conduct bio-indexing, and exclude insect pests; (3) good horticultural practices; (4) efficient and

reliable methods of therapy to eliminate graft-transmissible pathogens; (5) reliable methods of testing to detect pathogens; (6) good sanitation; (7) proper equipment maintenance; (8) good record-keeping; (9) time required to grow healthy plants; and (10) dedicated personnel who are trained in 3 through 8.

CGIP is in the process of expanding its facility, increasing the number of new citrus releases, and improving the turn-around time for processing new introductions by:

1. Passport, a new system that is being developed by cooperative citrus germplasm programs from California (UC-Citrus Clonal Protection Program and USDA-ARS National Clonal Germplasm Repository for Citrus and Dates) and Florida (Citrus Germplasm Introduction Program). Passport will allow access to protected healthy germplasm maintained by member programs.
2. Improved shoot-tip grafting success. Up by 236 percent (37 new grafts have sprouted and are growing).
3. Lisa Williams visited the Spanish citrus program and received instruction in the in-vitro budstick method of sprouting shoots for shoot-tip grafting. Budsticks are sprouted in test tubes incubated at 32 degrees C as a form of heat treatment that improves the success of removing pathogens otherwise difficult to eliminate by shoot-tip grafting alone.
4. Plans are in progress for construction of a new and larger office/lab (3,900 square feet) and greenhouse facility (18,000 square feet), to be completed next year.

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### **New Varieties Released:**

#### **Grapefruit:**

Imperial

#### **Navel:**

Fukumoto

#### **Mandarin-type:**

Gold Nugget

Kedem

Merav

Nectar

Nour

Shasta Gold

Tahoe Gold

Tami

TDE-1

Yosemite Gold

#### **Satsuma:**

Xie Shan

#### **Sweet orange:**

Joppa

UF SF9-1-29 5KRW/Valencia

Wheaton

UF Unnamed hybrid murcott:

FG 0601

FG 0602

FG 0603

FG 0604

FG 0605

FG 0606

### **New Varieties Received:**

#### **Texas (transgenic citrus with SoD2 gene):**

Rio Red grapefruit "5"

Hamlin sweet orange "311"

Ruby Red grapefruit "420,

"824", "867", "877", "882",

"890"

### **New Varieties**

#### **Pending Approval:**

##### **Tetraploids:**

Pomelo A

Pomelo B

### **New Varieties**

#### **in Progress:**

##### **Grapefruit:**

Dalandan

##### **Sweet orange:**

Natal valencia

##### **Mandarin:**

C5282

Eloise (2 selections)

Mandalate

Mandared

Moria

Tango

Winola

##### **Tetraploids:**

Clementine

Hudson grapefruit

Murcott

Minneola

### **Florida Varieties for**

#### **Clean-up:**

##### **Grapefruit:**

Charonja

Foster

"Good" pummelo

Leug shaddock

Westcott pummelo

### **Orange:**

Cadenera 441-33-27

Cuban White

Dr. King valencia

King seedling

Queen

SF 8-1-4

SF 8-2-6

### **Lemon:**

Podagra rough lemon

RL 8166

52 Lemon-oil Selections

### **Miscellaneous:**

Glen Red nucellar

Ira Ebersole ugli

Leopard Spot seedling

Sunfruit

Vinegrowth seedling

FG-411

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## Nematology

During this fiscal year, the nematology section analyzed 15,364 samples. These samples contained more than 255,000 specimens of plant parasitic nematodes, which were identified to genus and/or species by division nematologists. This diagnostic work involved 20,948 morphological and molecular identifications. Nematological analyses for certification and regulatory programs relative to citrus, ornamentals, and other Florida crops represented 91.1 percent of the total diagnostic work.

*Meloidogyne floridensis* is a root-knot nematode pest of peach trees (*Prunus persica*) in Florida. A four-year comparative study was conducted and completed with the objective to differentiate the morphology, enzymatic profile, host preference and pathogenicity of four isolates of *M. floridensis* collected in Alachua, Hendry, and Indian River counties. Morphological characters for second stage juveniles, males, and females of *M. floridensis* were compared between isolates and those of other economically important root-knot nematode species in Florida. Enzymatic profiles (esterase and malate dehydrogenase) from all four isolates were determined from populations infecting tomato (*Solanum esculentum*), pepper (*Capsicum annum*), tobacco (*Nicotiana tabacum*), and peach using polyacrylamide gel electrophoresis. Differential host tests were conducted to help characterize the four isolates of *M. floridensis* using cotton (*Gossypium hirsutum* cv. Deltapine 16), peanut (*Arachis hypogaea* cv. Florunner), pepper (*Capsicum annum* cv. California Wonder), tomato (*Solanum esculentum* cv. Rutgers), and watermelon (*Citrullus lanatus* cv. Charleston gray). Comparative host status studies of both root-knot nematode resistant and root-knot



nematode susceptible plant cultivars were carried out using tomato cvs. Talladega and Crista, pepper cvs. Keystone Resistant Giant and Charleston Belle, corn (*Zea mays*) cvs. Dixie 18 and Mp710, soybean (*Glycine max*) cvs. S64-J1 and Forrest, and peach cvs. Lovell and Nemaguard. Finally, the comparative pathogenicity, virulence, and reproductive potential of the *M. floridensis* isolates were tested and compared to *M. incognita* race 4 under field conditions using tomato cv. Talladega planted in microplots. This work on *M. floridensis* was conducted in cooperation with the University of Florida Department of Entomology and USDA-ARS in Byron, Georgia, and Fort Pierce, Florida. Results obtained from this study are still under analysis.

The studies on the morphological and molecular characterization of a cyst-forming nematode, *Afenestrata orientalis* Kazachenco, 1990 found in Florida in 2005, on *Miscanthus sinensis* were concluded and supplemented by a phylogenetic analysis of all *Afenestrata* species. The results of this analysis indicated that the genus *Afenestrata* is not a valid genus and it is a junior synonym of *Heterodera*. As a consequence of this research,

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all the *Afenestrata* species were transferred into the genus *Heterodera*. Department nematologists in collaboration with the taxonomists of the University of California, Riverside, and the California Department of Food and Agriculture, Sacramento, conducted this work. A paper concerning this research was published in Nematology.

The find of the pale potato cyst nematode (*Globodera pallida*) in Idaho, April 2006, has prompted survey studies in potato-growing areas of Florida. The potato cyst nematode survey has been conducted by Department nematologists in cooperation with the colleagues of USDA-APHIS and FDACS/DPI Florida Cooperative Pest Survey (CAPS). In spring, summer, and fall 2007, 362 samples were collected in the potato-growing areas of Charlotte, Collier, Miami-Dade, Lee, Manatee, Okeechobee, and Osceola counties. An additional 130 samples were collected in the winter and spring 2008 in Putnam, St. Johns, and Suwannee counties. The results of the nematological analysis of these 492 samples have not provided any evidence of occurrence of the regulated pale and golden nematodes (PCN) in the potato production areas of Florida. These findings have important regulatory significance and provide support to the exemption status of Florida agricultural industries from any ban on the export of potato tubers and other crops to countries regulating the PCN. Potato nematode pests such as awl, root-knot, and sting nematodes were detected in some fields in both South and North Florida. Cyst-forming nematodes, such as *Cactodera weissi* and *Heterodera cyperi*, were also found in the surveyed fields. However, these cyst-forming nematodes do not infect potatoes and parasitize mainly weeds associated with potatoes.

As mentioned above, the recent detection of *G. pallida* in Idaho and the subsequent find of *G. rostochiensis* in the Province of Quebec, Canada, August 2006, have intensified the interest of international regulatory agencies in acquiring accurate information about hosts other than potato that can support populations of these two pests. An international cooperative study on the hosts of the potato cyst nematodes not currently reported in the literature was initiated in 2006-2007 and was concluded at the end of this fiscal year. The results of this study were published in Nematropica. A list of potential hosts of PCN was prepared and includes the following unreported hosts: *Datura ferox*, *Nicotiana acuminata*, *Solanum ligustrinum*, and *S. pinnatum*. These new hosts were found in host tests conducted in Chile. This work also reports the results of field and greenhouse studies conducted in Bolivia, which indicate that oca (*Oxalis tuberosa*), an Andean tuber crop grown also in other regions including New Zealand, is not a host for PCN. These results conflict with a previous report of *Globodera* populations infecting oca in Peru. Another nematode species, *Thecavermiculatus andinus*, used for comparison in these studies, infected oca, but not potato. Since the females of *T. andinus* look similar to those of PCN, identity confusion between *T. andinus* and *Globodera* may have occurred in the disputed report conducted in Peru. This project was conducted by division nematologists in cooperation with a plant pathologist from the USDA-APHIS-PPQ-Center for Plant Health Science and Technology (CPHST), National Weeds Management Laboratory, Fort Collins, Colorado, and nematologists from the Potato Center (PROINPA), Cochabamba, Bolivia, the Ministry of Agriculture of Chile in Santiago, Chile, and the Italian Council of Research, Bari, Italy.



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*Meloidogyne mayaguensis* is an emerging nematode pest of vegetables, agronomic crops, and ornamentals in Florida. This damaging root-knot nematode is also able to reproduce on root-knot nematode-resistant tomatoes and other economically important crops. The resistance of many crops to root-knot nematodes is mediated by many genes. The expression of these genes is also affected by temperature. In a growth chamber experiment conducted at 22 degrees C and 33 degrees C, Florida isolate 1 of *M. mayaguensis* reproduced at both temperatures on the *Mi-1* carrying tomato lines BHN 543 and BHN 585, whereas *M. incognita* race 4 failed to reproduce at 22 degrees C, but reproduced well at 33 degrees C. These results were confirmed in another experiment at  $26 \pm 1.8$  degrees C during which minimal or no reproduction of *M. incognita* race 4 was observed on BHN 543, BHN 585, BHN 586, and Sanibel, whereas heavy infection and reproduction of *M. mayaguensis* isolates occurred on these four genotypes. Seven additional Florida *M. mayaguensis* isolates also reproduced on resistant Sanibel tomato at  $26 \pm 1.8$  degrees C. Isolate 3 was the most virulent, with a reproduction factor (Rf) equal to 8.4, and isolate 8 was the least virulent (Rf = 2.1). At 24 degrees C, isolate 1 of *Meloidogyne mayaguensis* reproduced well (Rf  $\geq 1$ ) and induced numerous small galls and large egg masses on the roots of root-knot nematode-resistant bell pepper "Charleston Belle" carrying the N gene and on three root-knot nematode-resistant sweet pepper lines (9913/2, SAIS 97.9001, and SAIS 97.9008) carrying the *Tabasco* gene. In contrast, *M. incognita* race 4 failed to reproduce or reproduced poorly on these resistant pepper genotypes. The ability of *M. mayaguensis* isolates to overcome the resistance of tomato and pepper genotypes carrying

*Mi-1*, N and *Tabasco* genes limits the use of resistant cultivars to manage this nematode species in infested tomato and pepper fields in Florida. This study, published in the Journal of Nematology, was conducted in collaboration with the Department of Entomology and Nematology, University of Florida, USDA, ARS Charleston, South Carolina, and the Italian Council of Research, Bari, Italy.

The morphological and molecular similarity between *M. enterolobii* and *M. mayaguensis* has been inferred for many years by many works conducted by the Department nematologists. The results of this long-term research on the molecular and morphological characterization of *M. mayaguensis* isolates were confirmed by a recent comparative study on the morphological and molecular characters of the type material of *M. enterolobii* with those of *M. mayaguensis* (Karssen et al. in press). This taxonomical project, conducted in Europe, has provided conclusive evidence that *M. enterolobii* is a senior synonym of *M. mayaguensis*.

### Plant Pathology

The plant pathology section processed 8,128 samples in the last fiscal year. Of that number, 1,255 were samples submitted for diagnosis of citrus canker and 4,096 were submitted for diagnosis for huanglongbing (citrus greening).

### Risk of Citrus Canker Transmission from Fresh Fruit

Along with UF/IFAS and USDA-ARS, the plant pathology section is continuing to cooperate on a USDA-TASC (Technical Assistance for Specialty Crops)-funded project to assist Florida's fresh citrus fruit industry in marketing fruit now that citrus canker is endemic in the state. This project is developing better ways to grade out canker-

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blemished fruit on the packing line, quantifying risks of canker transmission associated with asymptomatic fruit in the marketplace, and ultimately simplifying the grove inspection process in order to detect canker early and allow adjustment in management methods. One major outcome of the research has been the discovery

*Plectosporium* to species, Mary Palm (USDA-APHIS-PPQ, Beltsville, Maryland), the national mycological identifier, plans to sequence the DNA of this fungus. Pathogenicity tests continue at the division on chrysanthemum and other potential hosts of this fungus (*Alisima plantago*, *Sagittaria lancifolia*, and *Ocimum basilicum*).



that citrus fruit with canker blemishes is not a good source of inoculum to initiate disease. So far, outdoor experiments using heavily blemished packinghouse fruit have failed to initiate canker disease on susceptible cv. Duncan grapefruit plants in their immediate vicinity. Very few *Xanthomonas axonopodis* pv. *citri* cells have oozed out of the lesions during natural or artificial wetting events during the course of the long-term experiment. Inoculum escape from the lesions would be the first essential step for blemished fruit to transmit citrus canker. These experiments and other related projects will continue into the next fiscal year.

### **New Chrysanthemum Foliar Disease**

A potentially important fungal pathogen of chrysanthemum was brought to the division's attention by a commercial mum producer in Florida. Work continues to accurately identify this species of *Plectosporium* that causes blight symptoms on the mum foliage. In an effort to identify this

### ***Phytophthora Ramorum* Survey Activity**

In February 2008 *Phytophthora ramorum* was detected for the third time in four years at a Tallahassee garden center, and at the wholesale production area for the same nursery operation in Havana, Florida. This sudden oak death or ramorum blight pathogen was detected on *Camellia* spp., as well as new hosts in Florida: *Viburnum tinus*, *Viburnum odoratissimum*, and *Loropetalum chinensis*. This represents the first time this pathogen has been found on plants other than *Camellia* spp. in Florida. All finds are still confined to nursery settings. *Phytophthora ramorum* was also recovered from soil samples collected from under and within infected plant containers. Trace back investigations to Florida nurseries doing business with the Tallahassee firm yielded no *P. ramorum*. The source of the recurring finds of this pathogen at this site remains a mystery.

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In April 2008 the second year of stream-baiting for the presence of *Phytophthora ramorum* began both within and outside the confines of the retail garden center. This cooperative project, in conjunction with the U.S. Forest Service, also included a new bait site near the nursery in Havana, Florida.

### **Gladiolus Rust**

Gladiolus rust did not reappear in the Manatee County area this growing season. Both commercial and private residential gladiolus in the area made it through the season without a known infection. However, rust was plentiful in rural Hendry County, which is the location of the only other commercial gladiolus farm in Florida. Careful inspections, foliage stripping, and fungicide applications at the packinghouse allowed commercial sales of cut flowers to continue. One more attempt at eradication of the disease will be made for the 2008-2009 season. A poster on this subject was presented at the annual meeting of the American Phytopathological Society (APS) in San Diego, and a plant disease note announcing the new disease was published in the APS journal Plant Disease.

### **Downy Mildew on Coleus**

The discovery of a downy mildew on coleus (*Solenostemon scutellarioides*), previously unknown to science, was the subject of considerable study both in Florida and in states along the eastern seaboard up into New England. The disease was very subtle on young seedlings and cuttings at first, but eventually very destructive on mature plants and greenhouse-grown transplant plugs. The pathogen was first identified as *Peronospora lamii*, the mint downy mildew, but closer scrutiny revealed some significant differences. Molecular tools are being used to characterize the new pathogen and

assign a new species name. Published reports from labs in the United States and Europe confirm that the downy mildew on coleus in Florida matches an undescribed *Peronospora* species on coleus in New York and Louisiana and on basil in Switzerland.

### **New Rust Disease on *Daniella tasmanica***

A sample of *Daniella tasmanica*, a relative of daylily, was submitted to plant pathology exhibiting symptoms of a rust fungus infection on foliage. A rust pathogen has not been reported on this host plant in Florida. Since it occurred on a member of the Hemerocallidaceae, this rust infection may represent daylily rust (*Puccinia hemerocallidis*), expanding the pathogen's host range. Efforts at the division to infect *Daniella* with daylily rust have yet to be successful. Dr. Phil Harmon (UF) is working with the division's Plant Pathology Section to determine the identity of this rust, which may be *P. hemerocallidis* or *Uredo daniellae*, an obscure rust reported to infect *Daniella* spp. in New Zealand.

### **U.S. Pathogen Record on Euphorb Vine for Butterfly Cultivation**

A situation in Broward County near a commercial butterfly garden exemplifies the risks of ill-informed and apparently illegal plant importation. A fungal disease on spurge creeper apparently brought in for feeding butterfly larvae was brought to the division for diagnosis by Dr. Robert Pemberton of the USDA-ARS Invasive Plant Research Laboratory in Fort Lauderdale. The offending plant is a euphorbiaceous vine with stinging hairs named *Dalechampia scandens*. It has been found growing both inside and outside a local butterfly garden, spreading rapidly. Infecting the vine is an exotic leaf spot pathogen, *Pseudocercospora*

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*mucunicola*. Explosive seed dispersal ensures rapid spread of spurge creeper in the South Florida environment. An investigation into how the plant arrived at the garden/nature center is under way.

### **Septoria on Brazilian Pepper Biocontrol Project**

A cooperative project with Dr. James Cuda and Dr. R. Charudattan at the University of Florida was exploring the possible use of a fungal pathogen, an undescribed species of *Septoria*, against the invasive Brazilian pepper plant (*Schinus terebinthefolius*). Infections were successfully induced on the target plant, but unfortunately, during host range testing, a non-target and protected plant in the Anacardiaceae, *Rhus michauxii*, was also found susceptible to the fungal pathogen. For this reason, further exploration of the mycoherbicide potential of the *Septoria* has been dropped.

### **Orange Rust on Sugarcane**

The orange rust pathogen of sugarcane made its first appearance in North America in Canal Point, Florida, in late June and early July 2007. The pathogen was recognized as new by Dr. Jack Comstock at the USDA sugarcane research station and quickly confirmed as *Puccinia kuhneii* by state and federal pathologists. Surveys over the next several months tracked the pathogen through virtually all of the susceptible sugarcane clones in South Florida. The pathogen also appeared at about the same time (September 2007) in Guatemala and later Nicaragua, Costa Rica and Panama. The most susceptible varieties are CP80-1743, CP72-2086, and CL85-1040. The orange rust pathogen shows a higher tolerance for the summer weather, the same time brown rust (*Puccinia melanocephala*) is tapering off in severity. A crisis exemption for two fungicides,

metconazole and pyraclostrobin, has been obtained through the pesticide registration office in Tallahassee.

### **Septoria Citri Concerns and California Fresh Citrus Fruit**

Florida has placed packinghouse inspection and post-harvest treatment restrictions on fresh citrus fruit from California due to risks of transmission of the fruit-marring pathogen *Septoria citri*. Recent increased disease activity in California and rising concerns about appearance grades and disease transmission risks in fresh fruit in the U.S. and world marketplace prompted the Department to establish the restrictions against the fungus. Years of thorough surveys of Florida citrus indicate the pathogen is absent from the state.

### **Virus Diseases of Special Interest**

The thrips-transmitted tomato spotted wilt virus (TSWV) has been found for the first time in five species, *Tragopogon* in the Asteraceae, four of which are new reports worldwide. TSWV has also been diagnosed for the first time in *Heaemanthus* sp. (blood lily) in the Amaryllidaceae.

Two viruses, Bidens mottle (BiMoV) and Apium virus Y (ApVY) were found causing mosaic, vein-clearing, and leaf rugosity in the cut flower Bishop's weed (*Ammi majus*). The combination of viruses was rendering the product unfit for commercial sales. A note on this subject was published in Plant Disease 92:975 (2008).

Squash vein yellowing virus (SqVYV), a newly described ipomovirus infecting cucurbits in Florida was found in the cucurbit weed *Momordica charantia*. SqVYV has been blamed for the disease known as watermelon vine decline. This very common weedy reservoir host



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will present disease management problems for this whitefly-vectored pathogen. A journal article on this topic was published in *Plant Disease* 92:1119-1123 (2008).

### **Additional New Host Records of Interest**

- *Phytophthora palmivora* root rot on *Osmanthus fragrans*, *Ligustrum japonicum*, and *Carrisa macrocarpa*
- *Myrothecium roridum* leaf spot on *Polystichum tsus-sinense* and *Thelypteris decursive-pinnata*
- *Puccinia heterospora* leaf rust on *Herissantia crispa*
- *Puccinia malvacearum* leaf rust on *Modiola caroliniana*
- *Mycovellosiella* sp. (undescribed) leaf spot on *Coccoloba uvifera*
- *Thielaviopsis paradoxa* and *T. sp* (undescribed) trunk rot on *Sabal palmetto*
- *Nectria rigidiuscula* / *Fusarium decemcellulare* stem necrosis on *Eleagnus pungens*
- *Scerotium rolfsii* stem and rot (Southern blight) on *Sabal etonia*
- *Corynespora cassiicola* leaf spot on *Vaccinium corymbosum*
- *Phytophthora citrophthora* leaf blight on *Leucothoe axillaris*
- *Pseudocercospora subsessilis* leaf spot on *Azadirachta indica*

### **Cooperative Agricultural Pest Survey**

The Florida Cooperative Agricultural Pest Survey (CAPS) program includes a state survey

coordinator, three pest survey specialists, a geographic information specialist, a public information specialist, a molecular diagnostician, and a laboratory technician. These individuals, together with four USDA pest surveys specialists and an entomology domestic identifier, comprise the largest CAPS program in the nation. The CAPS team was involved in many key surveys and initiatives throughout the state during fiscal year 2007-2008.

Florida's agricultural community and citizens were made more aware of exotic pests through several activities such as the CAPS web pages, a traveling tabletop exhibit display, public outreach door hangers, a web-based firewood video public service announcement, flyers, online survey reports, computer desktop calendars, pest identification training sessions, public meetings and presentations, and newsletter articles, to name a few. Surveys were greatly enhanced by the GIS mapping specialist production of aerial and digital maps downloaded to PDAs and ARCPad applications.

A potato cyst nematode survey initiative began in April 2007. According to the national protocol, 10 percent of commercial potato fields in each county are to be randomly sampled. At this time, the CAPS team has sampled about 45 percent of the commercial potato fields in Florida and plans to survey the remaining fields in the fall of 2008 and spring of 2009. Nine of the 10 potato-producing counties have been surveyed. Over 12,000 acres were surveyed as of June 30, 2008, and 525 soil samples taken. Over 191,000 plant-parasitic nematodes in two orders, eight families, and 15 genera have been recorded. No nematodes of regulatory concern, including PCN, have been found.

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The CAPS team was the first agency in Florida to begin surveying for red palm mite (RPM). The RPM survey initiative began in October 2006, and the first continental record was collected on November 29, 2007, in Palm Beach County. This sample was collected as part of the CAPS/FFD Sentinel Survey Program. Each of these sentinel sites, occurring in 12 counties, was monitored at least once a month. In fiscal year 2007-2008, 1,324 sites were surveyed and 436 samples were collected, of which 131 samples were positive for RPM. A total of 116 RPM positive locations were recorded. In addition to RPM, staff identified 55 species of mite belonging to 18 families. As of June 30, 2008, RPM had been found in Palm Beach, Broward, and Miami-Dade counties.

In September 2007 a single male rice cutworm (*Spodoptera litura* Fabricius) was discovered in a bucket trap sample taken in April of the same year from a plant nursery in Homestead. The rice cutworm is a serious pest feeding on a wide range of host plants, including cotton,



corn, rice, soybeans, tobacco, vegetables, and many ornamentals. A delimiting survey was implemented immediately after the discovery of this pest. Twelve bucket traps baited with *Spodoptera litura* pheromone lures were placed in the nursery where the specimen was collected. Within a month over 120 bucket traps were placed within a nine-square mile grid around the original find. After 80 days of trapping, over 5,000 *Spodoptera* specimens were collected, examined, and identified. No new rice cutworm specimens were found, and all *Spodoptera* species collected were known to occur in Florida. Finding no new *S. litura*, the project was scaled back leaving traps only in high-risk nurseries. Rice cutworm is often intercepted on orchids such as *Dendrobium* sp. or *Oncidium* sp. from Asia; therefore, nurseries that receive large quantities of these plant species are targeted for monitoring. The CAPS team will continue this survey into the 2008-2009 year.

In March 2007 a light brown apple moth (*Epiphyas postvittana*) was collected in Berkeley, California. Shortly after this find, the pest was trapped in several other locations in the area. This led to an incident command system (ICS) program and an effort by both the state of California and USDA to eradicate light brown apple moth (LBAM) from the U.S. mainland. Florida receives much of its nursery stock from California, so a very real pathway exists for the introduction of this pest into Florida. This prompted the Florida CAPS program to identify and locate nurseries in Florida that receive nursery stock from LBAM-positive counties in California. When a high-risk nursery was identified, Jackson traps baited with an LBAM pheromone lure were placed either within or in the environs of the nursery. At the time of this report, 57 LBAM traps had been placed in high-risk nurseries. Another 43 traps will be added in fiscal year 2008-2009.

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In recent years, several invasive species that threaten trees and other natural resources have been introduced into the United States via solid-wood packing materials (SWPM). Florida's climate, geographic location, and extensive international ports-of-entry combine to make this state an incredibly high-risk area for the introduction of pests in SWPM. This threat prompted the Florida CAPS program to begin setting traps for species of concern associated with SWPM within a five- to 10-mile radius of Florida's major international maritime ports and airports. At the time this report was written, all major ports in Florida have traps within a five- to 10-mile radius, with 35 traps set statewide. This initiative is planned to continue for an unspecified length of time.

## **Domestic Security and Emergency Preparedness**

The Department continues to work diligently to assure that Florida's agricultural resources are safe from terrorism and prepared for all types of disasters. The Office of Agricultural Emergency Preparedness, established shortly after the

terrorist attacks of 2001, coordinates with all of the Department's divisions and offices to assure that our diverse programs are consistent, integrated, and equipped for success.

For the Office of Agricultural Emergency Preparedness, training and exercises were once again top priorities for the 2007-2008 fiscal year.

On the training front, the office continued to offer agency employees National Incident Management System training, with more than 3,500 course completions to date. The online course, "Fighting Agricultural Terrorism in Florida: Domestic Security Awareness Basics for FDACS Inspectors and Staff," has been completed by more than 2,000 employees. In addition to these courses, the office also offered a new course for this year, titled "AWR-151 Awareness: Understanding the Dangers of Agroterrorism." This training, developed by the Western Institute of Food Safety and Security and certified by the U.S. Department of Homeland Security, provided more than 200 participants with in-depth agroterrorism preparedness training during three days of course offerings in Seffner, Belle Glade, and Homestead. Attendees included Department employees and many of the Department's homeland security partners from local, state, and federal agencies. Because of the high level of interest in this course and the quality of the instruction, additional WIFSS agroterrorism course will be offered throughout Florida in the coming months.

On the exercise front, Florida's second statewide agroterrorism preparedness exercise was held on September 6, 2007, at the Safe Schools Institute in Boca Raton. The exercise, centered on a fictional terrorist attack on the school lunch

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program, was a great success. It provoked much lively discussion and thought-provoking dialogue, leading to several recommendations for future preparedness efforts. More than 100 professionals participated, representing county school districts, local/state/federal agencies, and private sector partners. Funding for the exercise was provided by the U.S. Department of Homeland Security, with organization and support provided by key state agencies, including the Florida Department of Agriculture and Consumer Services, the Florida Department of Education, the Florida Department of Health, the Florida Department of Law Enforcement, and the Florida Division of Emergency Management.

Because of strong partnerships and mutual respect between the Department and local, state, and federal agencies, Florida continues to be a national leader in the amount of federal homeland security funding used for the protection of food and agricultural systems. More than \$2 million in U.S. Department of Homeland Security grant funding,

and nearly \$350,000 in Centers for Disease Control and Prevention bioterrorism funding, was used to support key Department initiatives during the 2007-2008 fiscal year. This federal funding was utilized to support technological advances at Agricultural Interdiction Stations (Office of Agricultural Law Enforcement), for training and support of All-Hazard Incident Management Teams (Division of Forestry), to support laboratory enhancements (Agricultural Environmental Services, Animal Industry, Dairy Industry, and Food Safety), to improve the Department's ability to use Geographic Information System (GIS) data for emergency response (Division of Administration), and in continued support of the State Agricultural Response Team (led by the Division of Animal Industry).



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## Florida Agricultural Promotional Campaign

The Florida Agricultural Promotional Campaign (FAPC), commonly referred to as “Fresh from Florida,” is a promotional program designed to enhance the image and increase sales of Florida

Members receive a number of benefits, including use of the “Fresh from Florida” logos, the opportunity to participate in industry trade shows at a reduced cost, point-of-purchase materials to help promote their Florida agriculture commodity, and the chance to participate in the Logo Incentive Program. The Logo Incentive



agriculture. The campaign helps both domestic and international consumers easily identify agricultural products grown and produced in the state. It also works to increase public awareness of the importance of Florida’s agricultural industry.

There are two levels of FAPC membership: paid and non-paid. There is a \$50 annual fee for paying members. This category includes producers, packers, re-packers, processors, brokers, shippers, co-ops, agriculture supporters, and industry associations and organizations. Non-paying members include retailers, food service, non-profits, wholesalers, and educational and governmental organizations.

Program enables members to offset a portion of their costs on packaging, cartons, labels, and business vehicles while promoting “Fresh from Florida” commodities. Members may be reimbursed up to \$2,000.

FAPC has several commodity-specific “Fresh from Florida” logos that promote Florida-grown fruits, vegetables, seafood, horticulture, viticulture, organic, apiary, dairy, livestock, and other specialty products. Using the FAPC logo helps consumers easily identify Florida-grown products and automatically ties members into inclusive media advertising touting Florida agricultural products. The Department has also created logos

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for international buyers and consumers. These include “from Florida” and “from Florida USA” logos for value-added products.

The Department is continually working to develop marketing strategies to assist in the promotion of Florida’s agricultural products in both the United States and abroad. Now in its 18th year, FAPC has successfully led to increased sales and public awareness of Florida’s agricultural industry and its vital importance to the state’s economy.

### **“Fresh from Florida” Magazine**

The FAPC magazine, “Fresh from Florida,” is published twice a year. This glossy, full-color publication promotes Florida’s agricultural industry through feature articles on members and industry-sponsored events, educational information relating to the state’s present and future farmers, and seasonal articles on specific commodities. The magazine also includes recipes and articles promoting better nutrition from the Department’s executive chef. The publication is distributed to all FAPC members, national and international produce and seafood buyers, attendees at trade events, and other agribusiness industry professionals.

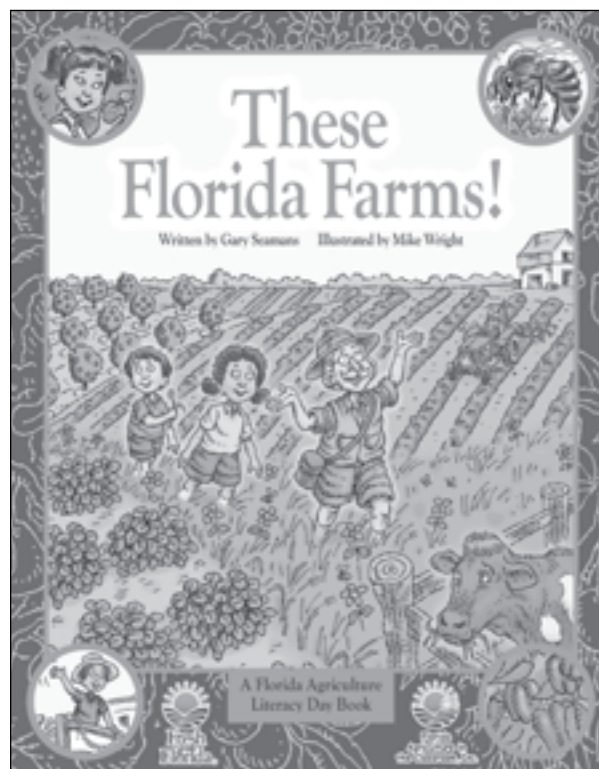
### **“Xtreme Cuisine” Cooking School**

With the number of overweight and obese youth climbing each year, health and fitness issues are at the forefront of today’s news. To address these issues, the Division of Marketing and Development created the “Xtreme Cuisine” curriculum to teach Florida youth how to prepare nutritious and tasty treats. The cooking classes also teach kids how Florida produce provides vitamins and minerals that can help prevent heart disease and other obesity-related illnesses. In addition, students learn the dangers caused by excessive amounts of salt, sugar, and fats in their diet.

Throughout the year, Florida students from around the state have learned about the “Xtreme Cuisine” concepts. Through Florida Farm Bureau offices, 4-H programs, public and private schools, and other youth settings, students are learning how to make their own healthy snacks by using “Fresh from Florida” products and other nourishing ingredients. The “Xtreme Cuisine” cooking classes were introduced to 1,181 students in 17 Florida cities during 2007-2008.

### **Children’s Agriculture Book**

As part of Agriculture Literacy Day, the Department and the non-profit organization Florida Ag in the Classroom teamed up to publish a special book for children titled “These Florida Farms!” The rhyming book follows a guide and two children as they visit different farms around the state, highlighting commodities



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from Florida. "These Florida Farms!" was written and illustrated by Division of Marketing and Development employees. The book was read to more than 86,000 elementary school students around the state on April 10, 2008.

## **Agriscience Education Leadership Program**

The Agriscience Education Leadership Program was created in an effort to make the Agriscience and Natural Resources field more desirable to teachers and to encourage more students to take agriscience courses. The Department and the Florida Department of Education created the training program to allow Florida's agriscience teachers to develop and improve their leadership skills and knowledge of current agricultural production.

Participants consist of agriscience teachers and supervisors who have at least three years of experience. These participants were nominated by their school district's superintendent and then selected by a special committee based on application information and essay answers.

With the Agriscience Education Leadership Program, teachers can expand their curriculum to include all components of agriculture. The program also allows them to refine their leadership skills in order to provide quality education for students. In 2007 and 2008, the group met six times and traveled to more than 50 different sites relating to agriculture, from the Department's offices to strawberry fields. The training and education the teachers receive lays a strong foundation and understanding about Florida agriculture that students can build on and appreciate.

## **Ethnic Marketing Campaigns**

The Division of Marketing and Development is continually working to educate minority groups on the major health risks that affect them. It also

strives to provide these groups with the necessary tools to combat obesity and other related illnesses. This health initiative encourages daily exercise and the increased consumption of fresh fruits and vegetables.

In May 2008 the Department participated in the Universal Sisters Health Conference in Jacksonville. The conference was designed to celebrate women of color and educate them on the significance of preventative health care. Marketing representatives from the Department created a "Fresh from Florida" farm store display that included fresh fruits and vegetables. A number of conference visitors also received a shopping bag full of fresh produce. Approximately 700 women attended the event.

This year the Department planned a new "Fresco de la Florida" Hispanic marketing campaign. The new promotional campaign reflects the values of the Hispanic community and will portray the "Fresco de la Florida" logo as a symbol of Florida agriculture. To understand Hispanic consumers' preferences for fruits and vegetables, marketing representatives conducted a survey in Hispanic communities in Miami, Orlando, Quincy, and Tallahassee.

In May 2008 the Department began an internet promotion to encourage eating Florida fruits and vegetables during Hispanic holidays like Cinco de Mayo, Quinceañeras, and Día de la Independencia. Advertisements for Florida products were placed on several web sites with a large number of Hispanic readers.

An agriculture-themed song was also created for consumers and industry representatives to enjoy. The song, available in both English and Spanish versions, is called "Fresh to You" or "Fresco Para Ti." The song portrays agriculture as a healthy source of life for everyone. The Hispanic version



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of the song was edited for a 60-second radio promotion that ran on the Florida News Network's Hispana Radio Network. The songs are available for downloading on the division's web site.

## Culinary Promotions

Award-winning chef Justin Timineri serves as the culinary ambassador for the state of Florida. His job as executive chef is to promote Florida's freshest commodities by creating new recipes, attending trade events, performing cooking demonstrations, and educating children on the value of health and nutrition. He supports Florida's agricultural industry by creating healthy, modern-style dishes that reflect the state's diverse population. Chef Justin's philosophy is that cooking should always be fun, simple, and flavorful.

In 2008 Chef Justin and the Department produced and published a cookbook filled with fresh and simple recipes using Florida agricultural products. The book is a collection of seasonal recipes grouped as Spring Treats, Summer Days, Fall Favorites, and Winter Warmers. It also includes a section on Florida wines with pairing suggestions.

To share Chef Justin's love of food with a larger audience, the TheFloridaChef.com web site was created. On the web site consumers can read articles about Florida products, download Chef Justin's recipes, and find out where he will be doing his next demonstration.

## Advertising Campaigns

From November 18 to December 1, 2007, visitors to Times Square Plaza in New York City got an eyeful of fresh Florida favorites. Four 15-second video advertisements aired regularly on the CBS "Super Screen" at 42nd Street between Seventh and Eighth avenues. The promotions featured



holiday wreaths and trees made up of fresh fall produce items, incorporating the holiday messages of "Savor the Season" and "Healthy Holidays." An estimated 1.5 million people passed by the screen daily, and the videos played during the world-famous Macy's Thanksgiving Day Parade. The spots were also broadcast by cable television affiliates throughout Florida from Thanksgiving until the end of December.

There were three different "Fresh from Florida" advertisements created to run in print publications during the year. Each ad had two versions, with one targeting consumers and one targeting



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industry representatives. The ads appeared more than 15 times in different publications between December 2007 and May 2008.

The Department regularly ran ads on a digital billboard in Tallahassee, which featured a new “Fresh from Florida” message every two to four weeks. Messages were also featured on 15 tollbooth signs located along the Florida Turnpike in Orlando, Leesburg, and Golden Glades.

## **Retail Campaigns: Global Grid and Winner’s Circle**

For five straight years, retail campaigns “Global Grid” and “Winner’s Circle” have been promoted in more than 10,000 stores worldwide. These outstanding numbers demonstrate the commitment level of the Department in helping Florida’s agricultural producers retain sales in both domestic and international markets.

“Global Grid” has become the largest retail operation conducted by the Department, with more than 9,000 stores worldwide. As a result of the program, exports of fresh Florida fruits and vegetables to Canada have soared. Before the campaign began, exports from the state to Canada were \$291 million, but by 2007 they totaled \$479 million. Individual store advertisements have also increased during that same period, rising from 22,000 in 2002 to 305,000 in 2007-2008.

During its eighth year “Winner’s Circle” remained focused on Florida retailers and surrounding states and included 1,744 stores this year. The program continues to stress the earlier successes of similar retail campaigns of previous years. Approximately 93,000 individual store advertisements were generated this year, the highest level achieved so far in this campaign.

Between November 2007 and May 2008, the two retail campaigns combined included 11,204 stores with 41 retail partners. More than 12.3 billion consumer impressions were generated from store advertisements. The geographic areas the campaigns covered include 44 U.S. states, three Canadian provinces, 11 Central American and Caribbean nations, and the four regions of the United Kingdom. Retail sales totaled an estimated \$700 million, producing approximately \$128 million in cash receipts for Florida farmers, creating more than 4,000 new Florida jobs, and adding \$16 million indirectly to local and state budgets.

## **Trade Events**

In October 2007, marketing representatives from the Department attended Anuga, the world’s largest food show, in Cologne, Germany. Two Florida businesses also traveled to the event to showcase their products at the “Fresh from Florida” pavilion. More than 163,000 visitors attended the event, up three percent from the latest Anuga in 2005.

Marketing representatives also traveled to Houston, Texas, in October 2007 to attend the Produce Marketing Association’s (PMA) Annual Convention and Trade Event. Nine Florida organizations, from producers and growers to associations, attended and displayed products in the “Fresh from Florida” pavilion. Executive Chef Justin Timineri and Development Representative Tom Thomas performed cooking demonstrations at the pavilion as well. PMA drew more than 16,000 attendees from 58 different countries and more than 3,000 industry buyers.

The 83rd Annual Canadian Produce Marketing Association (CPMA) Convention and Trade Show was held in Calgary, Canada, in May 2008.

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The event is Canada's largest fresh produce show. Members from the Department and three Florida producers and growers attended the event. The show is a good opportunity for businesses looking to market their agricultural products in Canada. More than 3,000 visitors attended CPMA.



## United Kingdom Report

With an incredibly strong economy, the United Kingdom is an international financial center as well as a global trading powerhouse. Multiyear retail marketing campaigns – with more than 180 stores of Waitrose, Ltd., and more than 300 stores of ASDA – throughout the United Kingdom have resulted in millions of dollars in sales for Florida producers.

To offer more insight and information to Florida's agricultural producers wishing to enter the U.K. consumer market, the Department published a 40-page report titled "Exporting: United Kingdom Report." The report came after extensive research done by the Division of Marketing and Development in the U.K. to determine consumer behaviors and attitudes toward imported fruits and vegetables. According to the study, there is great potential for the success for Florida products in the U.K.

One-on-one consumer surveys, taste tests, and focus groups were the methods used to gather the necessary data for this report. Researchers targeted affluent customers in three of the U.K.'s major cities: London, Edinburgh, and Dublin. A total of 380 consumer surveys were completed. The report contains detailed geographic, economic, and demographic information about the U.K. It also provides profiles of the region's major grocery retailers, Waitrose, ASDA, and SuperQuinn.

## International Marketing

The Department is regularly conducting trade missions and attending events in foreign countries in conjunction with the Southern United States Trade Association (SUSTA). SUSTA is a non-profit program funded by the United States Department of Agriculture that aims to increase exporting of Southern United States food and agricultural products. The long-term strategy of these missions is to create awareness of Southern U.S. food products and to increase knowledge of trading between the United States and foreign countries. This year the Department participated in SUSTA activities in South Africa, India, Eastern Europe, Turkey, and Saudi Arabia.

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**South Africa:** In September 2007, representatives from Florida participated in the Cape Town Orchid Society Expo as a way to promote Florida orchids and floriculture while building on the relationships developed in previous years. The long-term goals for this market are to establish relationships between floriculture importers and exporters and to open markets to this region. In addition to relationship-building, identifying key government officials and becoming familiar with trade barriers have been very important in exploring the potential of this market.

**India:** In 2007 the Department participated in the India IFE trade show. India IFE is the principal food, drink, and hospitality industry event for the subcontinent. India is an important market for many companies as it has the world's second fastest growing economy. In 2008 it is estimated that India's grocery retail market will be worth \$277.81 billion and the food and beverage sector will be worth \$110 billion. Florida will again attend the India IFE show in 2008, and since participation from U.S. companies is growing, there are plans to have a U.S. pavilion sponsored by the USDA's Foreign Agricultural Service office in New Delhi.

**Eastern Europe:** Representatives from the Department attended trade events in Budapest, Hungary, and Brno, Czech Republic, to test the market and determine the potential for trade between companies in the United States and Eastern Europe. The IFE Foodapest event in November 2007 in Hungary drew approximately 3,500 visitors. SUSTA had a booth with products from nine U.S. companies on display. Another trade event, Salima, was held in March 2008 in the Czech Republic and is the largest food

show in Central and Eastern Europe. SUSTA's booth displayed food products from seven U.S. companies. The Department will look more at marketing research in Eastern Europe to determine the products that would be appropriate for exporting in the upcoming year.

**Turkey:** In February 2008 a Department representative traveled to Antalya, Turkey, for the Anfas Food Product Fair. Anfas is the largest food trade event in Turkey with more than 35,000 visitors from 22 countries. Consumers in Turkey are open to different tastes and see U.S. products in a positive light. There is a growing demand for diet foods, healthy products, and frozen foods in the country. Six U.S. companies sent products to be showcased at the event. The long-term goals for this market are to locate importers and to identify demand for products from the Southern U.S. region.

**Saudi Arabia:** There was a SUSTA mission to Jeddah, Saudi Arabia, in May 2008. The Food Arabia event focused on fresh, frozen, and other value-added food products. A marketing representative from the Department was on hand to work with Florida exhibitors and facilitate meetings with buyers. The country is a \$6 billion import market for agricultural and food products.

## **Reverse Cattle Trade Mission**

The Department is continually working to attract international cattle buyers. Florida's beef cattle breeds are well suited to many areas of Central and South America because they show little or no effects from extremely high temperatures. These cattle have adapted to tropical and subtropical climates, making them desirable to cattlemen from countries with similar climate conditions.

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In May 2008 a group of potential buyers from Guatemala traveled to Florida to meet with cattlemen from around the state. The purpose of this reverse trade mission was to foster communication between the two groups. Over the course of several days, the potential buyers visited ranches and drove through agricultural production areas. They also met with other U.S. producers to learn about issues dealing with production and trade. This important reverse trade mission allowed established relationships to be strengthened and new contacts to be made. The Guatemalan group also made arrangements to purchase a number of Senepol cattle.

## **Thoroughbred Horse Missions**

Florida is home to some 600 Thoroughbred farms and training centers, with more than 75 percent of these located in the Ocala/Marion County area. These farms, training centers, and breeding and racing stock create an economic impact estimated at \$1 billion annually.

The Department continues to attract international buyers by conducting trade missions from Florida and hosting reverse trade missions into the state. Trade contacts initiated by the Department have resulted in more than \$3.5 million in Florida horse exports. This number is expected to grow as Florida marketing representatives continue to facilitate trade missions with foreign buyers. During the past year, the Division of Marketing and Development sent an equine trade mission to Ireland and conducted reverse trade missions for delegations from Korea, Italy, Canada, England, and Ireland. These missions were co-hosted by the Florida Thoroughbred Breeders' and Owners' Association, with the purpose of educating foreign buyers on the quality and value of Florida's equine industry.



Reciprocal visits from contacts made during the Irish mission are scheduled for August 2008 and April 2009 horse sales. Past mission attendees from Korea, Italy, Canada, and Britain are expected to return during those times.

## **Seafood and Aquaculture Marketing**

The Department's Bureau of Seafood and Aquaculture Marketing provides marketing strategies for Florida's seafood and aquaculture industry to facilitate buying, selling, and the promotion of Florida seafood and aquaculture products. The mission of the bureau is to market Florida products to consumers and help the seafood and aquaculture industry increase sales.

The bureau produces educational materials for consumers. It provides promotional materials, supplier directories, and training



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on handling and storage safety for retailers, foodservice professionals, wholesalers, and processors. The bureau provides educational and technical support and training for fishermen, aquaculturists, retailers, and foodservice professionals. It serves as a liaison for aquaculturists, commercial fishermen, government agencies, and the consuming public by utilizing the expertise of industry advisory councils. The bureau provides public relations to the media on behalf of the seafood, aquaculture, and marine life industries. It also provides marketing services, including electronic marketing programs identifying domestic and international buying and selling operations. It assists and promotes Florida industry through the distribution of recipe brochures and educational materials to visitors at seafood festivals throughout the state and at industry trade events, both at home and abroad.

The Department is committed to serving seafood and aquaculture audiences with integrity and professionalism to increase the industry's sales and profits through global marketing and education. Activities of the Bureau of Seafood and Aquaculture Marketing generated 126 million consumer impressions nationwide with a sales value of approximately \$21.9 million.

Chief among the audiences served by the Department are:

- Consumers seeking information to wisely purchase, prepare, serve, and store seafood and aquaculture products. The Department reaches consumers by means of printed materials, news releases, and public service announcements through television, radio, print media, and appearances at regional seafood festivals.
- Producers (fishermen, processors, and aquaculturists) who turn to the Department for technical, educational, marketing, and promotional assistance, as well as safety, handling, and storage information. Florida fishermen and processors took advantage of marketing and promotional opportunities to sell their products. The Department's marketing and promotional programs use the "Fresh from Florida" logo and are backed by a multilevel campaign creating consumer awareness and interest and fueling demand for Florida products.



## Consumer Education

TV Consumer Shows: Bi-weekly guest appearance at Tallahassee's CBS affiliate included staff preparing Florida seafood and other agricultural products. These culinary segments featured recipes touting the many health benefits of seafood and the ease of cooking fresh Florida seafood at home.

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**Seafood and Aquaculture Festivals:** The bureau also exhibited and distributed recipe brochures at the Apalachicola Seafood Festival (16,000 attendees); Clamerica Festival (5,000 attendees) in Cedar Key; Panacea Blue Crab Festival (6,000 attendees); and the Mighty Mullet Festival (2,500 attendees) in Panacea.

## **Oyster Education**

As part of the three-state partnership (Florida, Louisiana, and Mississippi) and with grant funding from the Gulf and South Atlantic Fisheries Foundation, the Bureau of Seafood and Aquaculture Marketing participated in several projects designed to educate the public about post-harvest processed oysters (PHP). The bureau assisted with the development of a program to target selected blogs with a PHP message. Through the contracting of a public relations firm specializing in interactive marketing and using an Internet strategy, specifically designed messages were developed for posting on weblogs (blogs) that targeted specific audiences (restaurant associations, nurses' associations, medical associations, etc.).

Bureau staff also presented at the first annual University of Florida Oyster School held in Apalachicola. The attendees came from industry, government, and statewide and national companies – for example, SYSCO, Publix, and Outback Steakhouse. Presentations to the attendees ranged from the science of testing oysters to the bureau's presentation on marketing PHP product. All presentations were designed to educate on PHP.

## **Other Events**

Pike Place Market Street Festival, Exotic Alligator Meat Promotion, Seattle, Washington: The excitement created by the Exotic Florida Alligator

booth sponsored by the Florida Alligator Marketing Committee (FAME) and coordinated by the Bureau of Seafood and Aquaculture Marketing was tremendous. Attendees not only were able to sample the prepared meat but were also able to talk to authentic Florida alligator farmers. The Market Foundation organizers estimated that there were 85,000 to 100,000 attendees at the festival. Florida's Executive Chef Justin Timineri prepared alligator cubes, ground alligator sausage, and alligator ribs in a variety of ways during the two-day event. The overall reaction after tasting was extremely positive.

**Pier 39, Fisherman's Wharf, San Francisco, California:** Pier 39 was buzzing with excitement the third weekend of June as visitors sampled Florida alligator meat cooked by the Bureau of Seafood and Aquaculture Marketing. Sampling took place at the Exotic Florida Alligator tent sponsored by the Florida Alligator Marketing and Education Committee (FAME) and coordinated by the bureau. As visitors sampled the meat prepared by Chef Justin Timineri they also talked to a bona fide Florida alligator farmer. The Exotic Florida Alligator booth was a 10x10-foot tent set up at the entrance to Pier 39. An attention-grabbing banner decorated the front of the tent, which was filled with tables adorned with black "Fresh from Florida" table cloths.

**Aquaculture America 2008:** Florida was the host state for Aquaculture America 2008 in February at Lake Buena Vista in Orlando. Bureau staff presented a marketing workshop for national aquaculture producers on how to reach the retail, wholesale, and restaurant buyers with information on their products. The workshop "Key Seafood Buyers Tell All" was a question-and-answer session with panel members

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representing the large retailer, wholesaler, restaurants, and chefs. Aquaculture America is sponsored yearly by World Aquaculture Society (WAS), an international non-profit society founded in 1970 with over 3,000 members in 94 countries. Its primary focus is to improve communication and information exchange within the diverse global aquaculture community.

Monterey Bay Aquarium's "Cooking for Solutions 2008": Chef Michelle Bernstein of Michy's in Miami prepared her signature "Wild Florida Shrimp" recipe at the seventh Cooking for Solutions event in May. Sponsored by the Bureau of Seafood and Aquaculture Marketing, Chef Bernstein was one of seven culinary greats selected to serve as an ambassador for sustainable dining. Bureau staff also gave a presentation about Florida farm-raised clams to attendees, chefs, and media representatives backed up by a chef preparing clam samples.

Tampa Bay Wine and Food Fest: The Bureau of Seafood and Aquaculture Marketing teamed with the Ocean Conservancy to promote Florida seafood and sustainable fishery education at the Tampa Bay Wine and Food Festival's "Unleash Your Palate" event in May. Florida Department of Agriculture and Consumer Services Executive Chef Justin Timineri and Kathryn Novak of Ocean Conservancy hosted a cooking demonstration and information session on Florida red snapper sustainability to restaurant owners, chefs, and food service attendees. Chef Justin also prepared wild Florida shrimp samples at the Ocean Conservancy booth throughout the day.

Florida Farm-raised Clam Samplings at Sweetbay Supermarkets: The bureau sponsored samplings of Florida farm-raised clams at 30 top-producing Sweetbay Supermarkets from Ocala to Naples in May. Chefs prepared clam scampi and handed out bureau clam brochures to customers. Sweetbay reported an increase in sales over

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prior month's sales. Florida farm-raised clams are a regular item in Sweetbay seafood cases but the increased sales numbers indicated that the samplings attracted new customers.

**The Great American Seafood Cook-off:** The Bureau of Seafood and Aquaculture Marketing sponsored Chef George Stella at the Great American Seafood Cook-off 2007 in New Orleans in August. Selected by Commissioner Bronson to represent Florida's seafood, Stella competed with chefs from 19 states for the "King of Seafood" title. He prepared an entrée featuring Florida grouper, blue crab, and red dragon fruit. Last year's winner, Department Executive Chef Justin Timineri, judged this year's competition and crowned the new "King of Seafood."

**Recipe and Educational:** Six new recipe brochures were produced with updated recipes, educational information, and photos. These new consumer brochures include more information about each type of finfish or shellfish, nutritional values, health and mislabeling advisories, and buying, storing, safe handling, and cooking tips.

**Photo Library:** The bureau added a number of new photos of plated and raw seafood varieties this year in a continued effort to expand and update its photo library. These photos are available to industry and media for publication purposes and to garner publicity for the Florida seafood and aquaculture industry.

## **Public Awareness**

The bureau's public awareness efforts for fiscal year 2007-2008 continued to increase media and consumer knowledge about Florida seafood and aquaculture products. This year's initiatives included commodity-specific and informational press releases, event participation, distribution

of promotional materials, television cooking segments, and direct media contact. Over 99.8 million gross impressions and almost \$200,000 in ad value were obtained from earned media. This exposure was accomplished by utilizing a multimedia approach at minimal cost, and almost 60 documented articles or features were published in print or online as a result of these efforts.

## **Industry Marketing Assistance Fishery Trade Leads**

Leads from companies seeking fishery products, obtained from the National Marine Fisheries Service, the United States Department of Agriculture's Foreign Agriculture Service, and from foreign and domestic companies, are compiled by the bureau and distributed to over 188 Florida seafood and aquaculture companies by email and fax. Trade lead recipients reported 20 new customers, 32 new prospects, and sales totaling \$1,342,500 resulting from these leads.

## **Trade Events**

**International Boston Seafood Show:** The Bureau of Seafood and Aquaculture coordinated and hosted the Florida Pavilion at the International Boston Seafood Show, February 24-26, 2008, at the Boston Convention and Exposition Center. Florida seafood and aquaculture companies were provided a high-profile way to present and promote their products within the pavilion. The pavilion featured the following Florida companies: Fishbusterz Fisheries, Florida Alligator Marketing and Education, Gulf and South Atlantic Fisheries Foundation, Incredible Fish, Leavins Seafood, Shaw's Southern Belle Frozen Foods, Stokes Seafood, Lake Trucking, and Wood's Fisheries. The goal of participating in this event is to promote Florida seafood and aquaculture and give companies an opportunity



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to make new contacts and generate sales. Over 17,000 seafood and aquaculture buyers from around the world attended the show. Those buyers visiting the Florida Pavilion contributed to a banner year with record combined sales estimated at \$20 million for the eight participating companies.

**Las Vegas Restaurant Show:** The Florida alligator industry was well represented at the Las Vegas Restaurant Show, February 26-27, 2008. Chef Josh Butler, Executive Chef for the Florida Governor's Mansion, served alligator bites with four different sauces and a large pot of alligator picadillo, a Cuban dish, both days. Over 30,000 restaurant owners, managers, buyers, and decision makers were in attendance. A culinary competition was set up across the aisle, so future executive chefs were introduced to the qualities and versatility of Florida alligator meat. The booth was sponsored by the Florida Alligator Marketing and Education Advisory Committee (FAME).

**European Seafood Expo:** The bureau coordinated, on the behalf of the Southern U.S. Trade Association, a Southern U.S. Seafood pavilion at the European Seafood Expo in Brussels, Belgium. This is the largest seafood-only show in the world and attracted buyers from 77 countries. Participating Florida companies reported sales at the show of \$250,000 and anticipated future sales of \$1.2 million as a result of this event.

**Asia Events:** On behalf of SUSTA, bureau staff coordinated Southern U.S. seafood pavilions at the China Fisheries and Seafood Expo in Dalian, China, and the Busan International Seafood and Fisheries Expo in Busan, Korea. Participating companies at these two trade events reported sales of \$1.35 million as a direct result of their participation in these events.

## **"Sea Notes" Industry Newsletter**

The Bureau of Seafood and Aquaculture Marketing constantly searches for new and innovative ways to highlight activities and opportunities available for industry. In order to maintain communication with the Florida seafood and aquaculture industry, the bureau developed "Sea Notes," an electronic newsletter distributed quarterly to seafood restaurants, retail markets, wholesalers, and other seafood allied industry members. The newsletter showcases the Bureau of Seafood and Aquaculture Marketing's promotional efforts and provides timely Florida seafood industry news. "Sea Notes" notifies recipients of opportunities for industry to be involved in marketing activities coordinated by the bureau.

## **Florida Seafood Seasons Advisory**

The bureau also publishes "Florida Seafood Season Advisory," an informational piece to inform Florida's retail, wholesale, and restaurant seafood industry of upcoming seasons as well as other topical information such as changes to quotas and bag limits. This advisory is published and distributed monthly, or as often as necessary, via email. It highlights openings and closures of commercially harvested Florida seafood. In addition to the regular monthly distribution, special advisories were sent when we receive new or updated information regarding a certain species, opening, or closure.

## **Promoting Seafood and Aquaculture on the World Wide Web**

The bureau's two web sites, [www.FL-Seafood.com](http://www.FL-Seafood.com) and [www.WildFloridaShrimp.com](http://www.WildFloridaShrimp.com), provide consumers, Florida's seafood and aquaculture industry, retailers, and the media with many downloadable seafood and aquaculture-related brochures, point-

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of-purchase materials, videos, audio files, and press releases. The web sites received 317,350 visits during fiscal year 2007-2008.

For consumers, [www.FL-Seafood.com](http://www.FL-Seafood.com) features Florida seafood recipes, nutritional information about seafood, information about 28 popular Florida seafood species, oyster safety information, a calendar of Florida seafood festivals, tips for handling, storing, and cooking seafood, a list of retailers and restaurants across the state that feature Florida seafood, history of Florida's coastal fishing communities, and a list of suppliers of finished alligator leather products.

Last year a special web page was added that focuses on product substitution, specifically grouper. Information is included on this page regarding the legal issues, suggestions on how to differentiate grouper from a substitute, and how and where consumers can file a complaint if they suspect a product may be something other than what it is advertised to be.

For wholesalers and retailers, the web site provides convenient online order forms for promotional materials, research and educational information on food safety and handling, trade leads, seafood advisories, and the "Sea Notes" newsletter.

### **"Go Native!" Campaign**

"Go Native! Eat Florida Seafood" is a dynamic new campaign to encourage consumers to "eat like the locals." With the nationwide interest in buying locally produced foods, "Go Native!" is designed to help consumers easily identify and select seafood caught in Florida's waters. The campaign spotlights Florida's important seafood industry and boosts business for retailers and restaurants as well. The logo, a colorful

cartoon fish with sunglasses, was an important component of the campaign. A television ad ran through the summer to encourage consumers to look for the logo that identifies Florida seafood products at participating seafood markets and restaurants.

### **Bureau of Education and Communication**

The Bureau of Education and Communication is responsible for educating and informing consumers through news releases, brochures, and other publications, exhibits and displays, graphics presentations, the Internet, television, radio, and other media. Bureau productions are integral to many projects that are part of the Florida Agricultural Promotional Campaign (FAPC), a program that assists the state's agricultural producers in expanding markets and promoting and selling Florida products. In addition to its role within the Division of Marketing and Development, the bureau also produces numerous projects for other divisions throughout the Department.

During fiscal year 2007-2008, the bureau distributed more than 140 press releases to inform the public about various regulatory and promotional activities of the Department. The bureau also responds to inquiries from the public and mails out publications upon request. More than 3,200 publications were mailed in response to over 700 individual requests received via the Division of Marketing and Development's web site [www.Florida-Agriculture.com](http://www.Florida-Agriculture.com).

### **Florida Market Bulletin**

The Florida Market Bulletin is a primary vehicle for keeping Florida's farming community informed of issues affecting the state's

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agriculture industry and the Department. This agricultural newspaper has been published regularly by the Department since 1917. In addition to disseminating agricultural news and information, the monthly Florida Market Bulletin provides a forum by which Florida residents can advertise to buy or sell agriculture-related items through its classified advertising section. During the 2007-2008 fiscal year, 5,785 classified ads appeared in the Market Bulletin. Monthly circulation averaged around 6,900. In response to budget reductions, the Florida Market Bulletin will no longer be printed and mailed to subscribers. June 2008 was the final printed issue, but the classified advertisements continue to be published online monthly.

## Video and Radio Production

The bureau produces and disseminates audio and video productions such as television and radio public service announcements, radio programming, agricultural producer assistance videos, informational/promotional videos, documentaries, and training videos. Major projects produced during the fiscal year included:

- Three television public service announcements about Africanized bees in Florida that explain the threat posed by this invasive insect to humans, animals, and the natural environment.
- Four 30-minute episodes of “The Florida Report” that explain the Department’s agricultural support functions and highlight the practices of various farming operations around the state. Produced in conjunction with the Florida Farm Bureau, these reports aired on RFD-TV, a satellite network that primarily serves rural and farming communities nationwide.
- An informational/promotional video about the Future Farmers of America state officers.
- An informational video about Florida’s “Woman of the Year in Agriculture,” outlining the lifelong contributions to the state’s agricultural industry by the 2007 recipient, Colleen Boggs of Homestead.
- Four documentary videos about the winners of the 2007 Commissioner’s Agricultural-Environmental Leadership Awards, detailing the progressive environmental practices of Gwinn Brothers Farm in McAlpin, Fraleigh Nursery in Madison, Buck Island Ranch in Lake Placid, and Butler Oaks Farm in Lorida.



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- A weekly agricultural radio news program produced in conjunction with Southeast AgNet.
- Radio spots promoting “Fresh from Florida” agricultural products that aired on various Florida university spots networks.
- “Savor the Season” and “Healthy Holidays,” two holiday-themed television public service announcements promoting “Fresh from Florida” agricultural products.
- “Florida Cracker Horse,” an informational video about the breed, that was presented during House and Senate discussions to name Florida’s Legacy Horse.
- “Babcock Ranch,” an informational video about the Southwest Florida ranch, that was presented during Cabinet discussions regarding management practices and environmental issues.
- Video promoting Florida alligator meat for use during a marketing event in San Francisco.
- “Go Native! Eat Florida Seafood” television public service announcement promoting seafood and aquaculture products from Florida.

## Graphics Production

The bureau is responsible for the design, illustration, and production of printed brochures, reports, booklets, posters, billboards, ads, and other marketing, promotional, and educational materials pertaining to agricultural marketing programs and other activities of the Department. The bureau’s graphics section was involved in the production of more than 350 projects during the fiscal year. Major graphics productions included:

- 2007 Department Annual Report. This 166-page report provides an overview of the Department’s activities during fiscal year 2006-2007 in

supporting Florida agriculture, promoting Florida agricultural products, ensuring a safe and wholesome food supply, conserving the natural environment, safeguarding consumers, responding to emergencies, and promoting employee excellence.

- “Florida Agricultural Statistical Directory 2007,” which is produced in conjunction with the U.S. Department of Agriculture. This 151-page book provides a statistical examination of Florida’s food, fiber, and forestry industries. In addition to agricultural statistics and specialized data, the directory contains price histories and production levels of various commodities, a listing of agricultural groups and associations in Florida, and a listing of producer assistance services offered by the Department.
- Commissioner’s Agricultural-Environmental Leadership Awards 2007 program booklet, detailing the progressive environmental practices of the four farming operations that received this year’s award.
- “Woman of the Year in Agriculture Award” 2007 program booklet, detailing the award recipient’s contributions to the state’s agricultural community.
- “Pandemic Influenza: Agriculture Planning Tool,” a preparation and response guide for use in the event of a large-scale health epidemic. It is geared toward businesses involved in the production and distribution of food.
- “Farm to Fuel” educational display for the Florida State Fair. The display outlined the potential for alternative fuels that can be produced in Florida from agricultural crops and bio-mass.



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- “India: Road to Success” marketing report, outlining potential exporting opportunities for Florida agricultural producers.
- “These Florida Farms,” a children’s book about the connection between food and farming, that was read to elementary school students across the state by agricultural industry volunteers in conjunction with Florida Agriculture in the Classroom’s annual “Ag Literacy Day.”
- “Fresh from Florida Kids” resource materials and notebook for parents to help plan and prepare healthy meals for their infants and other family members.
- “Exporting: United Kingdom Report,” which recaps previous marketing campaigns and outlines potential exporting opportunities for Florida agricultural producers.
- Promotional materials for the “Go Native, Eat Florida Seafood” marketing campaign.
- Numerous informational and promotional brochures, magazine ads, billboards, posters, and other miscellaneous graphics projects.

## Web Development

The Bureau of Education and Communication designed and maintains the Division of Marketing and Development’s two web sites, [www.Florida-Agriculture.com](http://www.Florida-Agriculture.com) and [www.FL-Seafood.com](http://www.FL-Seafood.com). During fiscal year 2007-2008, the sites received approximately 790,000 visits which yielded more than 3.02 million page views.

The sites contain information and materials that help Florida farmers more effectively market their products. These marketing tools include trade leads, current market prices, information about the Florida Agricultural Promotional Campaign, agricultural statistics, license and bond requirements, agricultural classified ads, point-of-purchase marketing and promotional materials, and an extensive list of agricultural links for research purposes.

The web sites also foster the notion that the more consumers know about the many agricultural commodities grown in Florida, the more they will choose to buy products that are “Fresh from Florida.” The sites inform consumers about the wholesomeness, variety, and availability of Florida agricultural products by providing: recipes for meals using Florida-



- “The Florida Chef: Flavorful Seasons,” a cookbook featuring recipes using Florida agricultural products.

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grown ingredients; nutritional data; seasonal availability information; food handling and safety tips; and locations and contact information for Florida's community farmers' markets, U-pick farms, seafood markets, agricultural fairs and expositions, and wineries and vineyards.

In addition to the division's two primary web sites, the bureau also developed and maintains other web sites that promote the "Fresh from Florida" message. These include:

- [www.FreshFromFlorida.org](http://www.FreshFromFlorida.org)
- [www.FreshFromFloridaKids.com](http://www.FreshFromFloridaKids.com)
- [www.TheFloridaChef.com](http://www.TheFloridaChef.com)
- [www.WildFloridaShrimp.com](http://www.WildFloridaShrimp.com).

The bureau develops and maintains other web sites in cooperation with agricultural organizations that have partnered with the Division of Marketing and Development to promote Florida agricultural products. These web sites include:

- [www.FloridaWildflowers.com](http://www.FloridaWildflowers.com) for the Florida Wildflower Seed and Plant Growers Association Inc.
- [www.WildflowerTag.com](http://www.WildflowerTag.com) for the Florida Wildflower Advisory Council
- [www.PropaneFL.com](http://www.PropaneFL.com) for the Florida Propane Safety, Education and Research Council
- [www.Florida-Farmers.com](http://www.Florida-Farmers.com) for the Florida Farm Bureau Federation
- [www.GreenPlantsForGreenBuildings.org](http://www.GreenPlantsForGreenBuildings.org) for the Green Plants for Green Buildings, Professional Landcare Network.

The bureau also produced four issues of the Department's Intranet-based employee newsletter, Open Lines.



## Food Distribution

The Department administered or provided support through commodities and/or cash for a number of U.S. Department of Agriculture programs in Florida, including the National School Lunch Program, Summer Food Service Program, and the Emergency Food Assistance Program that provides commodities for distribution to the needy.

During fiscal year 2007-2008, approximately 200 agencies serving over 2,000 public and private schools, food pantries, soup kitchens, and other emergency feeding organizations throughout Florida, received almost 83.5 million pounds of food valued in excess of \$68 million. As a result,

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almost 3 million people were reached on a daily basis, making Florida's food distribution program the fourth-largest in the nation.

The Department is involved in the Food Recovery Program and other programs that endeavor to eliminate hunger and food insecurity in the state. This fiscal year, farmers donated over 9.4 million pounds of fresh produce for distribution to those in need. The Department produces the Food Recovery Resource Guide, which lists organizations involved in food recovery. The guide is available on the Department's web site

to the general public and to schools, restaurants, hotels, grocery stores, and other entities involved in the preparation of meals and/or the sale of food items.

#### **WIC/Farmers' Market Nutritional Program**

The Florida Department of Agriculture and Consumer Services and the Florida Department of Health jointly administer the WIC/Farmers' Market Nutrition Program. This U.S. Department of Agriculture program has two statutory objectives: to provide fresh produce to eligible women and children who are nutritionally at risk; and to help local farmers by expanding



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the awareness of, use of, and sales at local farmers' markets. In 2007-2008, booklets totaling in excess of \$635,000 in \$4 coupons were provided to over 31,800 eligible WIC clients in Alachua, Bay, Escambia, Gadsden, Gilchrist, Holmes, Jackson, Leon, Okaloosa, St. Johns, Santa Rosa, Sumter, Suwannee, Union, Walton, and Washington counties. The Department entered into agreements with 202 farmers authorizing them to participate in the program. Participants can redeem the coupons for the purchase of locally grown fresh fruits and vegetables from authorized farmers at community farmers' markets. WIC/FMNP is a very successful program that provides eligible WIC clients nutrition education in addition to fresh produce and participating farmers with new customers. As a result, both groups continue to enthusiastically support the program.

## Emergency Response

As the lead agency for Emergency Support Function (ESF) 11, the Department is responsible for acquiring food, water, and ice for disaster victims. In the event of a disaster, the Bureau of Food Distribution also provides USDA commodities to disaster relief organizations for the mass feeding of disaster victims at designated feeding sites, from roving canteens, etc. Water and ice are given out at various points of distribution throughout the affected area.

In 2007-2008, Florida escaped the hurricane season unscathed.





# ENSURING

## A Safe, Wholesome Food Supply



The Department's experienced staff of public health professionals and laboratory scientists monitors nearly 47,000 food manufacturing/processing plants, retail food establishments, and similar food businesses to ensure compliance with food wholesomeness and safety standards. The Department maintains a close working relationship with the U.S. Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), the Florida Department of Health (DOH), the Florida Department of Business and Professional Regulation (DBPR) and other agencies to share information, avoid duplication of effort and carry out food safety activities effectively and efficiently.

The Department continues to emphasize proper sanitation and safe food handling practices in the establishments that it inspects, permits, and regulates. It also provides consumer protection safeguards by checking the accuracy of product labels, net weight, and grade standards. Laboratory analysis is performed to ensure

the absence of food-borne pathogens or other contaminants. By administering the Interstate Milk Shippers Program and similar state regulations, the Department assures consumers that dairy products are wholesome and are produced, processed, and merchandised under sanitary conditions. These programs also enable Florida dairy farmers to ship their products in interstate commerce.

The Department continues to assist the food industry through training for the implementation of Hazard Analysis Critical Control Point (HACCP) programs. HACCP concentrates on preventing, eliminating, or reducing food safety hazards to an acceptable level; these hazards may occur during any stage of the food production or handling process. Thus far, HACCP training efforts have concentrated on high-risk foods, including seafood, sushi, sprouts, and unpasteurized juices, and high-risk processes such as acidification and reduced oxygen packaging.



# ENSURING

## A Safe, Wholesome Food Supply

One of the Department's major missions is to protect the public from unsafe foods by laboratory surveillance testing for food-borne pathogens, illegal additives or contaminants, misrepresented products, and the presence of pesticides or other chemical residues for the enforcement of established tolerances. The Department is a national leader in the development and implementation of sophisticated analytical techniques and methods to ensure the safety of foods throughout the production and distribution process.

The Department emphasizes the prevention of food-borne illness, and when any situation relating to food safety arises, the Department has the authority to immediately stop the use of improper equipment or to halt the sale of products deemed unsafe to the public. As the lead state agency for food safety, the Department has continued to make preparations in its laboratories and inspection force to respond to any terrorist attacks and other emergencies related to the food supply. Inspectors have been trained as early responders, and the Food Safety Laboratories have key roles in laboratory response, both at the state and national level.

### **Food and Meat Inspection**

The Division of Food Safety has broad consumer protection responsibilities in the area of food safety. It inspects, permits, and regulates food manufacturing/processing plants, retail food establishments, and similar food businesses in Florida to assure compliance with food wholesomeness and safety standards. During fiscal year 2007-2008, there were 46,827 such businesses in operation in addition to 2,785 water vending machines. A total of 82,602 inspections were conducted, resulting in 4,063 individual food

businesses being cited for failure to meet sanitation and food safety standards. Five hundred and sixty-eight of those firms received administrative complaints and were assessed \$817,031 in fines. Other regulatory actions resulting from surveillance inspections included the issuance of 21,158 warning letters, 27,445 stop-sale orders, and 12,190 stop-use orders. Personnel from the division wrote stop-sale orders on an excess of 21.4 million pounds of food products, with 1.8 million pounds of this food ordered destroyed as unfit for human consumption.

The division also initiated administrative actions against 393 food establishments that failed to pay the required renewal fee for a Food Establishment Permit. These establishments were open for business, had been inspected, and were in violation because they were operating without a permit. Permit renewal is required annually under Florida law. Other activities by food inspectors included visits to establishments for complaint investigations, administrative purposes, sample collection, and enforcement actions such as placement or removal of stop-sale or stop-use orders. In addition to sanitation and food safety concerns, inspectors were also involved in a variety of other consumer protection activities. Food labels were reviewed for accuracy and compliance with federal and Florida requirements. Dried fruits were tested for the presence of undeclared sulfites. Ground beef was tested to ensure the amount of fat was correctly stated on the label and that poultry or pork products had not been added. Eggs were examined to verify labeled grade and size. Fish were tested to ensure accurate species labeling. Products were tested for "no sugar" claims. Other foods received similar safety and quality checks.

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An equally important part of the food inspection program is response to consumer needs and concerns. During fiscal year 2007-2008, staff responded to over 60,500 telephone calls, 2,040 email inquiries, and numerous facsimiles and letters from consumers as well as permitted firms. There were numerous inquiries regarding food and food handling practices, or expressions of concern about food establishment conditions. More than 2,545 consumer complaints were investigated with the complainant being advised of the findings unless anonymity was requested.

The Division of Food Safety continues to work closely with its federal partners, FDA and USDA, on food safety-related activities. Under a contractual arrangement with the FDA, the division conducted inspections at 490 interstate food manufacturers/processors. The division and the FDA also continued with partnership agreements in several program areas that helped avoid duplication, fostered the sharing of information, and assisted each other in carrying out food safety activities. Under a cooperative agreement with USDA, the division continued to provide egg and poultry grading and inspection services for over 115,462 tons of eggs and 81,671 tons of poultry. To expedite the terms of these agreements, many of the Department's personnel are commissioned by the FDA while others are licensed by the USDA. Other related activities in conjunction with the USDA include periodic inspections for food products illegally imported for sale such as: illegal invasive plants, plants and animals from prohibited disease- and/or pest-infested areas, and meats from Foot-and-Mouth disease, hog cholera, and Bovine Spongiform Encephalopathy (mad cow disease) areas.

The Division of Food Safety continued in fiscal year 2007-2008 to enforce Florida's statutory requirement that the country of origin of any fresh fruit or vegetable produced outside the United States be identified to food store customers. This identification is accomplished through labeling of individual items or by signage at the display. During the fiscal year, 397 violations were identified and 176 administrative fines totaling \$62,150 were collected from establishments where violations were found.

In response to the need for more thorough inspections when illegal activities involving foods are uncovered, the division has formed a new special inspection team (SI Team). The team focuses on conducting in-depth, independent assessments and tracking sales of illegal products such as raw milk, ephedra, unapproved and misbranded dietary supplements, and antibiotic/pesticide-adulterated products originating from domestic and imported sources. The team also conducts trace-backs to determine the origin of illegal products. In keeping with the division's emphasis on high-risk activities, the team addresses those issues and products of greatest potential harm to the consumer. A dietary supplement adulterated with a pharmacologically active ingredient that places persons with cardiovascular disease at risk was placed under stop sale order and voluntarily destroyed. The estimated street value of the product was greater than \$8 million. The SI team inspected more than 450 firms that dealt with suspected illegal food sale, permit violation, economic fraud, and other cases in which products were deemed adulterated.

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The Division of Food Safety continued the surveillance of herbal dietary supplements containing harmful compounds. Ingestion of products containing ephedrine alkaloids (sometimes called ma huang, *sida cordifolia*, or *pinellia*) has been associated with several deaths, including at least one in Florida. Inspectors from the division maintain surveillance activities for these banned products and issue stop-sale orders for ephedrine-bearing dietary supplements when found.

Responding to requests for assistance from the FDA with national product recalls and effectiveness audits, personnel from the Division of Food Safety continued to be effective. *Salmonella* in jalapeño and serrano peppers and metal pieces in Valentine's Day candy led to three national recalls during which the division provided assistance in ensuring that potentially contaminated food products were removed from store shelves.

During fiscal year 2007-2008, the Department tested 201 samples for nutritional label claims, resulting in nine warning letters for nutritional labeling violations. Appropriate fines were assessed for non-compliance with the law. The Department issued notice-of-violation letters, adverse findings letters, and defect action level letters when necessary to assure compliance with the law. The letters covered such issues as excess fat in ground beef; undeclared allergens; high bacterial plate counts in various ready-to-eat (RTE) foods such as sandwiches, salads, cheese, sprouts, sushi and produce; species adulteration; and general labeling deficiencies. As a result of the division's efforts on specific nutritional claims such as "low carbohydrate," "low fat," "no trans fat," "low sugar," "low salt,"

etc, many food processors have changed their label or their formulation to comply with labeling requirements. In other situations, products have been voluntarily removed from the Florida market for failure to comply with accurate nutritional labeling criteria.

The Division of Food Safety has been an active participant in the FDA Voluntary National Retail Food Regulatory Program Standards, which have been designed to serve as a guide to regulatory retail food programs managers in the design and management of a retail food program and to provide a means of recognition for those programs that have met these standards. The intent in the development of these standards is to establish a basic foundation for administration of a model retail food regulatory program. It is a viable and evolving program in which the division currently meets five of the nine program standards and shares the lead with comparable state programs nationally.

The Technical Development and Review Section is made up of an administrator, a staff assistant and two teams, Training and Standardization and Hazard Analysis Critical Control Point (HACCP). Training and Standardization consists of eight FDA-certified Inspection Officers. The team standardizes field personnel and develops, implements, trains, and evaluates field staff and programs. Other responsibilities include: addressing the Certified Food Protection Managers Certification requirements, reviewing and revising food program rules, reviewing plans, and developing field personnel manuals. During the 2007-2008 fiscal year, this group held two laws and rules classes in Tallahassee for new inspectors and developed a special training course for senior inspectors. This group



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gave additional training in the following areas: Seafood HACCP regulator, Country of Origin Labeling, and Standardization Workshop. Also, during this year the training and development group standardized 147 field inspection staff in the Food and Drug Administration Standardization and Certification Process, which is based on the Centers for Disease Control risk factors. In 2008 this group was awarded the Davis Productivity Award for outstanding achievements in state government.

The division continues to be actively involved in the ongoing training and implementation of HACCP programs in the food industry. HACCP is an internationally recognized, science-based, systematic, preventive, process control program to assure the production of safe food. It complements existing sanitation and good

manufacturing practices programs by preventing, eliminating, or reducing hazards that may occur during any stage of the food production or handling process. Federal and state food regulations require both seafood and fresh juice processors to evaluate their food handling processes and to develop and follow an HACCP plan if a critical control point is identified in their process. During the 2007-2008 fiscal year, 745 verification HACCP inspections were conducted for the bureau's various HACCP programs. HACCP verification inspections included high-risk products such as seafood, sprouts, fresh juice, and sushi, and specialized processing such as preserving food by acidification, smoking, curing, and other similar methods. The Department's HACCP unit continues to coordinate with industry and other agencies to provide training, assistance, and information.

The division continues an active intra-agency partnership with the Department's Agricultural Interdiction Stations. Cooperation between the Division of Food Safety and Agricultural Law Enforcement has resulted in enhancement of the safety of food through continuous monitoring and rapid response to problems associated with the transportation of foods throughout the farm-to-table food continuum at every road portal into Florida. Through coordinated activities, thousands of pounds of potentially unsafe food have been destroyed and prevented from entering Florida's food supply, or the vehicles have been sealed and sent back to their state of origin. Communications with the regulatory authorities in other states allow food safety professionals of regulatory agencies in neighboring states to meet such returned vehicles and supervise the destruction of the products and take appropriate regulatory action against the shipping firm.

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The division is actively involved with the Florida Food Safety and Food Defense Advisory Council, which was created to serve as a forum for presenting, investigating, and evaluating issues relevant to the safety and security of the state's food supply. The council brings together diverse partners to address common food safety and food defense issues of concern to the citizens of Florida. Recent concerns have focused on food defense and preparation throughout the "farm to fork" continuum in the event a pandemic associated with Avian Influenza is realized. Other issues have ranged from food-borne illness outbreaks to technical advances in accurate and rapid identification of fish to prevent misrepresentation and overpricing to consumers.

The substitution of higher-priced, wild-caught fish with less expensive farm-raised fish continues to be a major concern. The farm-raised fish are quite inexpensive when compared to fish such as grouper or snapper, but the fillets are similar in appearance. This price differential creates a potential for large-scale misbranding of seafood. Advances in technology have enabled the Division of Food Safety to confirm the true identity of some of these seafood items. Testing of imported grouper and snapper for confirmation of species has disclosed a significant percentage of misbranded lots. With the help of other state and federal agencies, academia, and industry, the division continues to develop tests and procedures to ensure that the consuming public receives wholesome, safe, and properly identified seafood. When misbranding is verified, the product is placed under stop-sale order and is removed from the marketplace.

In fiscal year 2007-2008, the Department processed and issued over 7,458 Certificates of Free Sale. These documents are provided

for food products that are used for human consumption and exported to other countries. Businesses receiving such documents must be permitted by the Department and have a current satisfactory sanitation rating. Two hundred twenty-nine businesses received service for shipment of U.S.-originated food products to some 60 different foreign countries.

The Department oversees bottled water plants, bulk water vendors, and self-vending water machines. The Department coordinates with other agencies to ensure all drinking water processed in Florida continues to meet the federal and state Safe Drinking Water Acts. The Department also works closely with the Bottled Water Association on an international level since bottled water is imported from various countries and the imported water must meet all applicable drinking water standards. Additionally, there are over 2,785 self-vending water machines at convenient locations throughout the state. They offer another source of safe and convenient drinking water to Florida's residents and visitors. The Department uniquely identifies and tracks each machine to make sure it is properly inspected and sampled at established intervals.

Self-vending ice units are a new addition to the food industry in Florida. These units are self-contained modular buildings that produce, store, bag and vend ice to consumers. The Department has been actively involved in evaluating the design, construction, and sanitation procedures to confirm compliance of the units with all sanitation code requirements.

Marketplace survey food samples are taken routinely during the inspection process or if violation of state or federal standards is suspected. In fiscal year 2007-2008, division

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field inspection staff collected 7,684 samples which were sent to the Department's Bureau of Food Laboratories for testing and analysis. As a result of laboratory findings, the division has initiated nationwide and statewide recalls of adulterated or contaminated food products. The marketplace survey sample program is just one more level of consumer protection that the Division of Food Safety offers to Floridians.

During fiscal year 2008-2009, the division joined the Food and Drug Administration in its Tomato Safety Initiative, which is part of a risk-based strategy to reduce foodborne illness in fresh tomatoes by focusing food safety efforts on specific products, practices, and growing areas thought to be potentially problematic. Interdisciplinary teams comprised of individuals from FDA, CDC, the University of Florida, the Division of Food Safety, and the Division of Fruit and Vegetables conducted assessments on tomato farms and in tomato packinghouses throughout Florida. The goal of this multi-year initiative is to improve guidance and policy intended to minimize future outbreaks as well as ascertain future tomato safety research, education, and outreach needs.

At the request of the tomato industry, the Department, with input from the University of Florida IFAS extension and the tomato industry, promulgated the nation's first regulation relating to safe handling practices of tomatoes at the farm and packing house. This regulation took effect July 1, 2008, and established inspection procedures and best management practices to enhance the safety of tomatoes grown, packed, or repacked in Florida. The Division of Food Safety and Division of Fruit and Vegetables will be working in a cooperative effort to implement and enforce this new regulation to enhance the safety of tomatoes.

### **Chemical Residue Laboratories**

One of the Department's major missions is to protect the public by monitoring fruits, vegetables, seafood, honey, and other foods for the presence of unsafe residues of pesticides, antibiotics, and other chemicals and the enforcement of authorized tolerances. The Bureau of Chemical Residue Laboratories analyzes food items for the presence of potential chemical contaminants.

Food samples are collected from farms, packinghouses, processing facilities and elsewhere in the distribution chain. All foods grown in Florida, and those brought into the state to be offered for sale, are subject to unannounced collection and analytical testing to assure adherence to the standards for allowable levels of pesticide or other chemicals, freedom from contamination or illegally used chemicals, and proper representation in labeling. The Department also provides pesticide residue data to federal agencies for use in making dietary risk assessments and for other purposes. During fiscal year 2007-2008, the Department's laboratories conducted some 499,581 different determinations for residues of specifically targeted pesticides and other chemicals on 3,690 food product samples.

### **Pesticide Residues**

A primary focus of the Chemical Residue Program is the analysis of pesticide residues in fresh fruits and vegetables. The Department's regulatory program is one of the most comprehensive monitoring and enforcement programs in the nation and provides the residents of Florida with valuable information concerning the safety of the food supply. In

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addition to assuring the proper use of pesticides by Florida growers, a thorough testing program enhances the status of Florida-grown produce in nationwide and international markets.

Florida is an important producer of fresh fruits and vegetables for the nation. Samples are selected for regulatory surveillance based on several factors. An emphasis is put on Florida-grown commodities. Statistics on Florida-grown produce, as well as national consumption patterns and previous history of pesticide residue findings, are used to develop sampling plans that will target products most likely to contain illegal residues.

During the past year, the Department conducted surveys of tomato, strawberry, pepper, cucumber, potato, corn, watermelon, cabbage, squash, and green bean producers early in the growing seasons in order to assure proper pesticide use. In support of Florida-grown citrus, 138 samples were analyzed, including 69 oranges, 55 grapefruit, eight tangelos, and six tangerines. An additional 49 citrus samples from other states and countries were also analyzed including seven lemons, 18 limes, seven nectarines, and 17 grapefruit, oranges, tangelos, and tangerines. Grapefruit are exported to Japan and growers must meet strict pesticide regulations. Data provided by the Department can help provide assurance of the safety of Florida produce and aid its acceptance into foreign markets.

During fiscal year 2007-2008, the Chemical Residue Laboratories analyzed 1,657 samples in its regulatory surveillance monitoring program, 13 consumer complaint samples and 2,020 additional samples of bananas, green beans, kale, collards, and spinach under contract with the USDA. The regulatory samples included

1,627 fresh fruit and vegetable samples and 18 honey samples that were tested for pesticides to assure compliance with federal pesticide residue tolerances. In addition, six honey samples and six seafood samples were tested for illegally used chloramphenicol and fluoroquinolone antibiotics. In addition, 13 consumer complaint samples were screened for chemical contamination. Ten crab meat, one cherry, one strawberry, and one garlic consumer complaint samples were analyzed for unknown organic contaminants. The Department worked with the Florida Department of Health to investigate a subsequent finding of 1, 4-dichlorobenzene and naphthalene in a crabmeat sample. Products sampled in the regulatory program were produced in Florida (962, or 58.06





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percent) or 25 other U.S. states (340, or 20.52 percent), or were imported foods from 27 different countries destined for Florida markets (354, or 21.36 percent). One sample was of unknown origin (0.06 percent).

Pesticide residue violations in fresh fruits and vegetables led to 35 incidents of food adulteration in fiscal year 2007-2008. Whenever possible, field personnel traced back product to its origin and took additional samples. Of the fresh fruits and vegetables analyzed in this regulatory surveillance program, 2.15 percent exceeded established tolerance levels or contained pesticides not approved for use on a commodity. However, in imported produce tested, 6.5 percent (23 of 354) was identified with illegal residues, while in U.S. produce only 0.92 percent (12 of 1,302) was in violation. By agreement with the FDA, Florida's pesticide surveillance focus is on domestic products while the FDA targets imports. A strong FDA partnership with Florida provides information and resources needed to prevent violative product from being distributed.

More than 170 pesticides are screened in the regulatory program. New registrations or pesticides of particular interest in Florida crops are routinely added to the Department's analytical capability. The Department continues to support Florida's citrus industry by continually expanding its pesticide analysis screen to include agrichemicals with special use exemptions as well as those of particular interest for citrus export. The Department also focused on enforcement of pesticide crisis exemptions which were granted to Florida growers. Of the active ingredients with exemptions, all of the fruit, vegetable, and honey exemptions are monitored, including myclobutanil in legumes, thiophanate methyl in

tomatoes and citrus, and fludioxonil in carambola (starfruit). Additional special surveys to monitor crisis exemptions for other commodities/pesticide combinations will be continued.

The Department continues to be active in the USDA Pesticide Data Program (PDP), an internationally recognized program that focuses on providing comprehensive data on pesticide residues for the purpose of risk assessment. An additional 2,020 samples of bananas, green beans, kale, collards, and spinach were analyzed as a part of this program, which targets very low part-per-billion levels of pesticides in commodities most frequently consumed by infants and children. Samples include both domestic and imported products. Commodities and sampling sites are chosen to statistically represent the product available for consumption throughout the United States.

### Antibiotic Residues

In the fall of 2005, the fluoroquinolone antibiotics ciprofloxacin and enrofloxacin were detected in imported fish. Analyses of fish collected by Florida and analyzed by the FDA confirmed the presence of fluoroquinolones. Florida-detained and violative product was voluntarily destroyed as a result of this cooperative effort. In 2007, follow-up analyses by the Chemical Residue Laboratory for fluoroquinolones in imported catfish did not result in violations. In 2006, analyses of fluoroquinolones in honey resulted in six violations. Using the method and data provided by the Chemical Residue Laboratory, the FDA issued an import alert for four Chinese firms importing honey to the United States. In 2007, follow-up analyses by the Chemical Residue Laboratory, for chloramphenicol and fluoroquinolones in imported honey, did not result in violations.

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The Bureau of Chemical Residue Laboratories continues to expand veterinary drug residue testing capabilities to assure that foods sold in Florida are free of harmful contaminants.

### Food Laboratories

The Bureau of Food Laboratories uses chemical, microbiological, molecular, and physical methods to analyze foods processed or sold in Florida. These analyses help to ensure a safe and wholesome food supply by verifying the absence of adulterants, especially microbial food pathogens and food allergens, by verifying conformance with standards of safety and quality, and by ensuring accurate representation in labeling and nutritional claims. Emphasis is placed on current and emerging food safety issues, such as microbiological contamination, unapproved food components, filth, chemical and heavy-metal contaminants, new food and food packaging technology, dietary supplements and other label and nutritional claims, and natural toxicants. The Bureau of Food Laboratories is also a national leader in preparations to respond in the event of a terrorist incident or emergency event involving the food supply.

Testing of food products using molecular methods, especially nucleic acid analyses based on the polymerase chain reaction (PCR), continued expansion during the year and now includes testing for *Escherichia coli* O157:H7, Shigella, and Salmonella. Molecular methods for analysis of Hepatitis A in green onions, cyclospora in produce, noroviruses, and *Vibrio parahaemolyticus* and *Vibrio cholerae* in shellfish are undergoing development or validation. Testing for specific toxin-producing genes in *E. coli* continued for the USDA Microbiological Data Program (MDP).

DNA fingerprinting, or pulsed field gel electrophoresis (PFGE), is being performed by the Food Laboratories for quality assurance, as well as for typing when specific organisms such as *Listeria monocytogenes* or Salmonella are recovered from a food product. The patterns produced by the PFGE are submitted for inclusion in the national PulseNet database. This data can then be used by epidemiologists in search of the causative agent for outbreaks. The staff is certified in PFGE by the Centers for Disease Control and Prevention (CDC).

### Food Analyses

During fiscal year 2007-2008, the Department performed 61,194 analyses on 9,454 samples. The majority of samples (7,684) were received under Division of Food Safety or other Department regulatory inspection programs. In addition, 702 samples were received from the joint state and USDA Microbiological Data Program, and 1,068 were other special samples. Out of 7,684 regulatory samples, 6,879 samples, representing 89.52 percent of state program samples, were found to be in compliance with all applicable food safety requirements. A summary of regulatory pathogen analyses results is shown below:

#### Summary of Regulatory Pathogen Analyses

Organism	Adulterated Samples
<i>Listeria monocytogenes</i>	53 of 2,845
Salmonella	0 of 1,886
<i>E. coli</i> (generic)	204 of 2,555
<i>E. coli</i> O157:H7	0 of 474
<i>Staphylococcus aureus</i>	8 of 2,357

Food safety issues remain a major emphasis of the analytical program. With the continued identification of food-borne illness outbreaks, increased monitoring for pathogens in ready-to-

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eat food is necessary. Microbiological pathogen analyses focused on *Salmonella*, *Listeria monocytogenes*, *Staphylococcus aureus*, *E. coli* O157:H7, and generic *E. coli*. Targeted products for these analyses included ready-to-eat produce, processed meats, fresh-cut vegetables, sprouts, prepared salads, ground beef, cheese, smoked fish, spices, and sandwiches. As a result of past outbreaks, the Department continues to monitor fresh-squeezed citrus juices. Additionally, analyses of bottled and vended water and ice for adulteration by either microbiological or chemical contaminants represented a significant component of state surveillance programs.

### Summary of Water/Ice Analyses (Microbiological)

Sample type	Adulterated/Misbranded
Vended and Bottled Water	12 of 767
Ice	29 of 706

In its eighth year, the USDA MDP, which is designed to determine the frequency that potential pathogens are detected in fresh produce, required Florida, Colorado, Michigan, New York, Ohio, Texas, Washington, and Wisconsin to systematically monitor fresh produce commodities by testing for *Salmonella*, generic *E. coli*, and, newly added in early 2008, *Shigella*. Seven hundred and one samples were analyzed by the Department this year. Commodities tested included bagged lettuce, domestic and imported tomatoes, cantaloupe, sprouts, and spinach. The sampling plans and findings of the collective participating laboratories provided an accurate representation of national exposure to the selected pathogens. Further expansion of this program, both in types of organisms and commodities tested and technology used, is expected.

In 2005-2006 the MDP program was expanded to include analyses for *E. coli* O157:H7. A project to test for toxigenic *E. coli* other than *E. coli* O157:H7 continues this year for the MDP program using a multiplex PCR test. This year, the numbers were decreased for a second year in a row due to a shortened testing time period.

In August 2002, the Bureau of Food Laboratories was certified by the FDA for microbiological testing of shellfish in support of the National Shellfish Sanitation Program (NSSP). The laboratory was re-inspected in spring of 2007 and is maintaining competency for this certification.

Other areas of emphasis in public health and consumer protection include monitoring juices, honey, syrups, and vanilla for fraudulent formulations or adulteration; ground meats for fat claims and species identification; candy for lead; and candy, sodas, and bakery products for artificial colors. Bakery products are also monitored for insect filth and rodent contamination, as well as nutritional claims. Dietary supplements continue to be monitored for the presence of ephedra alkaloids. Unsafe or misrepresented products are removed from sale by the Bureau of Food and Meat Inspection.

Florida's fresh seafood is monitored by the Department in response to concerns regarding species substitution, decomposition (histamine in scromboid species and indole in shrimp), and safe levels of mercury. Fish tested by the Department include tuna, grouper, mahi-mahi, red snapper, salmon, swordfish, mackerel, blue marlin, amberjack, and catfish. A DNA sequencing method for species authentication was validated and is in use. Updating to an FDA method will occur in the next fiscal year.

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The Department continues its extensive surveillance of products making nutritional claims such as “low carbohydrate” and “fat free.” Products making “sugar free” claims have been under particular scrutiny due to their potential impact on diabetics and other consumers. Monitoring of undeclared food allergens continues with particular focus on milk, egg, and peanut allergens. With the passing of the Federal Food Allergen Labeling and Consumer Protection Act, the Department continues to ensure appropriate and understandable food allergen labeling. The requirement for trans-fat labeling was effective beginning last year. The Department has extensively surveyed the market for accuracy in trans-fat declarations, as well as correctness in labeling.

The Molecular Laboratory also modified and tested food sample preparation methods for the national Food Emergency Response Network (FERN) protocols for real-time PCR and conventional PCR detection for certain pathogens on food samples.

### **ISO 17025 Accreditation**

On May 21, 2007, both laboratory bureaus attained American Association for Laboratory Accreditation (A2LA) accreditation to the ISO/IEC 17025 standard, General Requirements for the Competence of Testing and Calibration Laboratories, for the specific tests listed in certificates 2534.01, 2534.02, and 2534.03. The ISO/IEC 17025 standard is recognized internationally as the standard for assessing the quality and competence of analytical testing activities, and the two bureaus attained accreditation after undergoing a rigorous four-day audit by A2LA assessors. Accreditation to this standard provides the Department with



international credibility, showing that analytical data produced by the two bureaus meets rigorous standards for quality and laboratory competence. This accomplishment came after a lengthy, intense process of developing and implementing policies and procedures governing virtually all aspects of laboratory operations, a process that required the dedication of considerable resources, a high level of commitment by all laboratory staff, and the continued backing and support of senior management. Ongoing work now will include



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auditing of the system, corrective actions, and preventive actions for improvement, all combining to ensure the results generated by the laboratories meet the Department's needs.

### **National Databases**

Both the Food Laboratories and the Chemical Residue Laboratories continue to provide data to the FDA-supported eLEXNET national data system, which allows real-time exchange of information concerning potential or suspected food supply problems. Staff members use eLEXNET for reporting results for FERN projects. Data is exported from the laboratories database to the eLEXNET system.

Results from PFGE testing on contaminated food product bacterial isolates are being submitted into the national PulseNet database, to allow for comparison of food product isolates with patterns from human outbreaks.

An application was also developed which provides direct export of data collected for the Pesticide Data Program from the laboratories database to the PDP Oracle database in Washington, D.C.

### **Education and Training**

Educational opportunities for laboratory personnel were emphasized in order to remain on the leading edge of science and technology. In July 2007, the Department hosted the 44th Annual Florida Pesticide Residue Workshop (FPRW). This conference is highly regarded for its excellent content and speakers. It allows Department chemists to share the latest developments in technology with experts from other agencies and nations. The conference was attended by over 180 scientists and included representatives from six foreign countries. In addition, Department

scientists have been active on several national committees and attended training workshops in order to update knowledge in the areas of analytical chemistry, microbiology, and new technologies. Staff members also participated as trainers for national training programs for FERN and the National Laboratory Training Network.

### **Responding to Food Emergencies and Terrorism**

The Food and Chemical Residue Laboratories continue their initiatives to enhance capability to respond to a terrorism incident involving the food supply. Both laboratories are members of the FERN and participate in federal cooperative agreements both in microbiology and chemistry to enhance capabilities and participate in national surveillance assignments. FERN was formed to respond specifically to national food emergencies and the threat of terrorism in foods. In addition to biological capabilities, the laboratories have expanded counter-terrorism capabilities to include testing foods for chemical agents. The FERN laboratories were activated in late June 2008 after the Salmonella outbreak associated with fresh produce continued even though warnings were put out for one commodity. Because of the activation, state and federal laboratories found a culprit in jalapeño peppers, and in addition, found other Salmonella contamination associated with imported produce. The Food Laboratory conducted testing to assure the safety of Florida tomatoes and to detect contaminated produce to ensure the safety of the food supply.

The Division of Food Safety and the laboratories maintain strong partnerships with other state and federal agencies, including the Florida Department of Health (DOH), FDA, USDA, and the CDC. The Food Safety Laboratories,

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together with other state agencies, have developed a statewide laboratory response plan to assure a coordinated and effective response to emergencies. Representatives of the Department's and DOH's laboratories meet quarterly to enhance the abilities of both agencies to respond in the event of an emergency.

The Food Laboratories have undergone inspections by the FDA, CDC, and USDA regarding the capability to safely handle and securely protect highly dangerous select agents and toxins, and the laboratories have satisfied all requirements. This has allowed the Department to be one of the few state agricultural departments to have a food laboratory that is a member of the national Laboratory Response Network (LRN) for public health protection.

Accomplishments in this domestic/food security initiative include operation of an active Biosafety Level-3 laboratory, the acquisition and use of sophisticated analytical equipment and substantial ongoing training of staff in procedures for processing and analyzing samples suspected of containing terrorist threat agents. Staff attended training on FERN and LRN protocols at FDA and USDA laboratories, technical meetings with other laboratories, and workshops and teleconferences. Laboratory staff gave lectures and presentations on issues in domestic/food security at conferences throughout Florida. Food Laboratories staff have been instructors at FERN workshops on real-time PCR as well as microbiological analysis for potential threat agents.

Previously renovated laboratory space in both the Chemical Residue and Food Laboratories provides areas for safe and secure preparation and analysis of foods for presence of hazardous

chemical agents. The renovated space includes separate chemical extraction areas with chemical fume hoods for both organic and metals sample preparation. Laboratory space for eight instrument bays, equipped with overhead ventilation hoods, house gas, and liquid mass spectrometers and other instrumentation, are dedicated to counterterrorism work. Upgrades to computer capabilities and electricity, purified water, and analytical gas supplies have been added to support this new technology.

Through FERN cooperative agreements, both the Food and Chemical Residue Laboratories are performing extensive testing and verification of FERN methods and protocols to be used in the event of national food emergencies. Funds and instrumentation received under the cooperative agreements have enabled the laboratories to develop complex microbiology and molecular analysis, as well as toxin screening techniques utilizing gas, liquid, and inductively coupled mass spectrophotometry. FERN methods have been developed and validated in several high-risk commodities. Instrument and method training for analysts, as well as participation in FERN surveillance exercises and proficiency check samples, has significantly improved the laboratories' ability to detect agents of concern in complicated food matrices. The collaborative contributions of these two state food laboratories to national food security exercises are making Florida a national leader in food safety and security. The laboratories participated in FDA or FERN counter-terrorism surveillance exercises and several FERN and LRN proficiencies during 2007-2008.

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### Division of Dairy Industry

The Department's Division of Dairy Industry ensures that dairy products purchased by Florida consumers are wholesome, produced under sanitary conditions, and correctly labeled. The division regulates the production, transportation, processing, distribution, and labeling of milk and milk products. It establishes standards for these products, whether they originate in Florida or other states.

The division issues permits and conducts inspections for Florida dairy facilities. As of June 30, 2008, these facilities included:

Dairy farms	147
Milk processing plants	19
Cheese plants	4
Frozen dessert manufacturers	70
Single-service milk container manufacturers	18
Milk distribution depots	44
Milk receiving, transfer, and wash stations	8
Milk hauling services	18

In addition to its inspection program, the division collects and tests samples from dairy farms and processing plants for compliance with established product quality standards. These samples are collected by field inspectors and tested in a division laboratory for excessive bacteria and somatic cells and for the presence of antibiotics, added water, and other impurities.

The programs administered by the Division of Dairy Industry are part of a uniform national dairy sanitation program outlined in the Pasteurized Milk Ordinance (PMO) published by the U.S. Food and Drug Administration (FDA). Likewise, most of the dairy product quality standards enforced by the division are part of the PMO or the Code of Federal Regulations. As in all states,

both the PMO and the relevant sections of the Code of Federal Regulation have been adopted in state statute or rule.

The fact that all states have adopted uniform regulations makes it possible to ship dairy products from state to state with a minimum amount of interstate regulatory interference. The interstate shipment of dairy products is coordinated through the Interstate Milk Shippers Conference, an organization that includes representation from FDA, the dairy producing and processing industry, and all state dairy regulatory agencies.

An IMS Rating Officer routinely performs surveys for the purpose of determining compliance with the PMO. In addition, the FDA will conduct periodic check ratings to determine if both the industry and state regulatory agency are in compliance with the requirements in the PMO. A state that fails its FDA inspection can be denied the right to ship Grade A milk across state lines. During fiscal year 2007-2008, IMS Rating Officers performed five plant surveys, seven single-service containers manufacturer audits, and 11 farm group surveys, involving 149 dairy farm inspections. FDA conducted seven plant check ratings, seven single-service container manufacturer audits, and three farm group check ratings, involving 34 farms.

### The Florida Dairy Industry

Florida dairy farms are large, milking an average of about 850 cows each. In spite of the hot, humid climate, these cows average about 16,400 pounds of milk per year or about five gallons per day per cow. Even though the state's 122,000 dairy cows rank it first in the Southeast and 16th nationally, Florida still imports approximately 30 percent of its milk – and the proportion of imported milk is

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growing. Florida's 19 Grade A milk processors include four Dean Food plants, two Publix plants, one Winn-Dixie plant, and two plants owned by National Dairy Holdings Group, LP.

### **Dairy Inspections**

The division's 12 field inspectors are stationed from Miami to Pensacola. They make regular visits to dairy farms and processing plants to inspect, consult, and collect samples. During the past year, dairy inspectors performed 1,486 inspections at dairy farms and plants in Florida. They also collected 7,973 samples of milk and milk products. They made 1,503 inspections of milk transport tankers and bulk milk haulers.

### **Monitoring Antibiotics in Milk**

The industry has established a rigorous program to monitor milk for contamination with residues of antibiotics commonly used to treat cows on dairy farms. During the 2007-2008 fiscal year, 57,490 transport tankers, representing more than 2.7 billion pounds of milk, were checked for antibiotics in Florida. Only six (one in 9,580) of these tankers, were found to contain traces of antibiotics; all six loads were dumped. Nationally, about 1 in 3,155 tankers of milk is found to have antibiotic contamination. These statistics show that Florida dairymen do an exceptional job of preventing antibiotic residues in their milk.

### **Division of Aquaculture**

Florida has a long history of aquacultural activity dating back to the establishment of an alligator farm in St. Augustine in 1893, the creation of the Shellfish Division within the Department in 1913 to support clam and oyster farming and harvesting, and the shipping of farm-raised



tropical fish and aquatic plants from Miami by railroad during the 1920s. Florida has the most diverse number and type of animals and plants in production and production systems of any state in the country and ranks sixth in overall farm-gate sales.

The Division of Aquaculture was created in 1999 by the Florida Legislature and is responsible for implementing the provisions of the Chapter 597, F.S., through six programs: aquaculture certification, leasing of sovereignty submerged land for aquacultural purposes, shellfish resource development, shellfish processing plant certification, shellfish harvesting area management, and technical support. The Act also provides for an advisory council to the Commissioner of Agriculture, the Aquaculture Review Council, and a state agency council to resolve aquacultural issues. Information about the division's programs is available on the web site [www.FloridaAquaculture.com](http://www.FloridaAquaculture.com).



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### **Aquaculture Certification Program**

An Aquaculture Certificate of Registration was established by law to recognize the culture of aquatic species (fish, plants, reptiles, molluscs, and crustaceans). Aquaculture facilities are required to be certified annually and to attest that they will comply with Aquaculture Best Management Practices provided in Chapter 5L-3, Florida Administrative Code. The Aquaculture Certificate of Registration is used to identify aquaculture producers as members of Florida's agricultural community and to identify aquacultural products produced in the state. Aquaculture Best Management Practices encompass farm location, design, animal and plant species, operation, and management to achieve Florida's environmental conservation and preservation goals. Farm inspections are conducted to ensure compliance with the Aquaculture Best Management Practices and the responsibilities assumed by the farmer when accepting the Aquaculture Certificate of Registration.

The division certified 985 aquaculture facilities during fiscal year 2007-2008. Forty-six percent of certified farms produce shellfish, 26 percent produce ornamental fish and plants, and 19 percent produce food fish, with the remainder producing live rock, alligators, and bait. Certified farms are found in 62 of the state's 67 counties, with the highest number of certified farms (21 percent) occurring in Levy County. Hillsborough County is next with 9 percent, followed by Brevard, Dixie, Indian River, Lee, and Polk counties with 6 percent each.

### **Sovereignty Submerged Lands Leasing Program**

The division is responsible for the Aquaculture Lease Program under the provisions in

Chapter 253, F.S. Currently, the Department administers 628 aquaculture leases containing about 1,553 acres and 73 shellfish leases containing about 1,190 acres. Aquaculture leases are located in Brevard, Charlotte, Collier, Dixie, Franklin, Indian River, Lee, Levy, Manatee, Monroe, Palm Beach, Pinellas, St. Johns, and Volusia counties.

In response to its statutory mandate, the division identifies tracts of submerged lands throughout the state that are suitable for aquacultural development. Twenty-one Aquaculture Use Areas have been identified by the Department and authorized by the board of trustees in nine coastal counties, including Brevard, Charlotte, Collier, Dixie, Franklin, Indian River, Lee, Levy, and Volusia.

### **Oyster Culture and Shellfish Resource Development Program**

Under the mandate that began in 1913 to improve, enlarge, and protect the oyster and clam resources of the state, the division is actively engaged in enhancing shellfish resources and restoring oyster reefs on public submerged lands. During fiscal year 2007-2008, the division collected 138,048 bushels of processed oyster shell from processors in Franklin County and 4,632 bushels from processors in Levy County. Oyster resource development projects were conducted in cooperation with local oystermen's associations in four coastal counties. A total of 245,337 bushels of live oysters was replanted on public reefs in Franklin, Wakulla, Dixie, and Levy counties.

### **Restoring Public Oyster Reefs**

The division is involved in a comprehensive multi-county project to restore oyster reefs that

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were damaged by recent hurricanes. During fiscal year 2007-2008, 9,250 tons of fossilized shell was collected and 252,432 bushels of shell planted. This project is designed to enhance oyster production, to facilitate recovery of the oyster business, and to provide significant resource restoration benefits. The project promotes the development of self-sustaining reef communities, which in turn perform ecological services which contribute to fisheries habitat, ecosystem stability, nutrient cycling, and improved water quality. Functioning oyster reefs are recognized as an essential component in stabilizing and sustaining ecological relationships in almost all Gulf estuarine ecosystems.

### **Shellfish Harvesting Area Classification and Management Program**

This program seeks to classify and manage Florida coastal waters for maximum use of shellfish resource, protection of public health, and promotion of a healthy coastal environment. The program is audited each year by the U.S. Food and Drug Administration to ensure compliance with the provisions of the National Shellfish Sanitation Program. A total of 38 shellfish harvesting areas are currently classified and managed statewide. During fiscal year 2006-2007, the required annual update reports were completed for all 38 shellfish harvesting areas and all of the shellfish harvesting areas requiring a triennial reappraisal report were completed. The data

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and reports support current classification and management for all shellfish harvesting areas. During fiscal year 2007-2008, a total of 722 sampling excursions were conducted to collect and analyze 13,185 water samples for fecal coliform bacteria. There were 344 closures and re-openings of shellfish harvesting areas. Shellfish harvesting area maps and their harvest status (open or closed) is posted on the division's web site.

### **Shellfish Processing Facility Program**

This program seeks to ensure wholesome shellfish products through inspection, education, and enforcement of state regulations and national guidelines. The program is audited by the U.S. Food and Drug Administration to ensure compliance with the provisions of the National Shellfish Sanitation Program. A total of 100 Shellfish Processing Plant Certifications were issued during fiscal year 2007-2008. A total of 415 regulatory processing plant inspections were conducted. Based on fiscal year 2007-2008 inspection results, a total of 52 warning letters and five settlement letters were issued. Action was taken to destroy shellfish products when they were found to be adulterated, contaminated, unwholesome, mislabeled, or exceeding the product shelf life.

The division assisted Florida oyster processors in developing and implementing Post Harvest Processing (PHP) technologies to reduce human health risks associated with naturally occurring *Vibrio* bacteria in shellstock oysters. Three Florida firms are currently validated for freezing and frozen storage, with two actually doing so, and another Florida firm is gearing up for freezing validation studies. Processors are also interested in a Florida irradiation

facility becoming validated now that irradiation has been approved by the U.S. Food and Drug Administration for shellfish. The division has facilitated the adoption of PHP technologies by: (1) updating regulations to incorporate these new technologies, (2) working with research laboratories that conduct the validation studies, and (3) working with PHP processors on appropriate PHP labeling and required recordkeeping.

### **Technical Support Programs**

The division provides substantial technical and administrative support for a variety of initiatives to support aquaculture development and conserve Florida's natural resources:

- Creating or revising Aquaculture Best Management Practice through the formation of technical advisory committees composed of producer, agency, extension, and environmental representatives that write initial drafts that are then subject to the public administrative rule development process.
- Coordinating scientific expertise through the Transgenic Aquatic Species Task Force and Apple Snail Task Force to advise the division regarding potential environmental effects associated with genetically modified fish or exotic apple snails.
- Supporting the Statewide Clam Industry Task Force that addresses issues of interest to clam farmers on the Gulf and Atlantic coasts.
- Administering a hurricane disaster assistance grant program that disbursed \$3.6 million of federal funds to 139 eligible aquaculturists.
- Partnering with the Department of Environmental Protection with funds

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provided by the National Oceanic and Atmospheric Administration to produce five public education kiosks installed in Brevard, Charlotte, Franklin, and Lee counties. The kiosks describe the environmentally compatible nature of shellfish farming or harvesting and the value and importance of estuaries and aquatic preserves, and ask that recreational boaters respect working farmers and shellfish farming equipment.

- Administering industry development project grants to provide answers for production, technical, or economic challenges that are recommended by the Aquaculture Review Council to the Commissioner of Agriculture for funding through legislative appropriations.
- Organizing and conducting workshops, seminars, and problem-solving activities to resolve environmental issues or provide information to Florida farmers. Two risk analyses were completed concerning Florida's marine ornamental trade and the stocking of sterile grass carp to improve agency and farmer efforts to prevent the establishment of nonnative species in Florida.
- Producing the Florida Aquaculture Plan in concert with the Aquaculture Review Council as a planning document to coordinate the

efforts of state agencies, the public and private research community, the Legislature, and other interested parties.

- Producing "Florida Aquaculture," a bi-monthly newsletter for all certified aquaculturists, shellfish processing houses, and other interested parties to communicate timely technical information, state and federal regulatory updates, grants and aids programs, or event announcements.
- Producing technical bulletins to provide in-depth information on topics like red tide, red tide regulations, cultured hard clam handling and harvesting, shellfish net coatings, aquatic preserves, apple snails, hurricane preparedness, shellfish harvest area management, and the Interstate Shellfish Sanitation Conference.
- Aquaculture Review Council projects, environmental analyses, the Florida Aquaculture Plan, "Florida Aquaculture" newsletter, and technical bulletins are posted to the division's web site, and free copies are available by contacting the division at (850) 488-4033.



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## **Agricultural Environmental Services Scientific Evaluation**

The Scientific Evaluation Section (SES) in the Bureau of Pesticides is a small group of scientists representing a range of scientific disciplines. The SES has expertise in chemistry, toxicology, ecological and human health risk assessment, environmental modeling, geology, and soil science. The primary function of SES is to conduct environmental fate and health risk assessments on pesticide products seeking registration. In addition, the section works closely with the U.S. Environmental Protection Agency (EPA), other bureaus and offices in the Florida Department of Agriculture and Consumer Services, pesticide registrants, sister government agencies, agricultural stakeholder groups, and the public to evaluate the impacts of pesticides on human and ecological health, endangered

species, ground and surface water quality, and air quality. Several of SES's more intensive efforts from this past year are highlighted below.

### **Registration Reviews**

During fiscal year 2007-2008, SES conducted environmental fate and effects assessments on 41 active ingredients in 75 product brands seeking registration in Florida. This represents a significant increase above last year's activity of 26 active ingredients and 33 products. Although these products may have been reviewed by the EPA, the assessments conducted by SES consider several unique Florida conditions (e.g., rainfall, multiple growing seasons, and agricultural practices) that may not have been considered in the EPA assessment. SES recommended approval for all registration requests after determining that the products would introduce no unacceptable risk to humans or non-target species when used according to the product label.

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However, in some cases, SES recommended approval of the registration on the condition that the registrant make changes to the label to mitigate risks or provide additional information to the Department. SES also evaluated the environmental fate and risks of five products for which emergency exemptions were sought.

Of greatest significance during this fiscal year was the section's review of the new soil fumigant iodomethane (methyl iodoide). Iodomethane (Midas products) is marketed as an alternative to the popular fumigant methyl bromide and is the first new fumigant to be registered by the EPA in decades. The safety of this product has been challenged by advocacy groups, and the federal label represents a major shift in mitigation measures for soil fumigants. Accordingly, the section conducted its most comprehensive environmental fate review and human health risk assessment, to date. The iodomethane review posed new challenges to the section since the risk assessment considered unique exposure scenarios (bystander exposure) not typically evaluated in registration reviews, and EPA risk assessment employed new approaches to risk assessment such as computerized air quality modeling and physiologically based pharmacokinetic modeling. The review involved significant consultation with toxicologists and regulatory staff within the Florida Department of Agriculture and Consumer Services, the Florida Department of Health, the Florida Department of Environmental Protection, EPA, the registrant, the Farmworker Association of Florida, the Florida Fruit and Vegetable Association, California Department of Pesticide Regulation, and other stakeholders. This unprecedented level of effort lead to a Florida-specific label with additional risk mitigation measures, clearer and

more enforceable instructions to applicators, and agreements by the registrant to implement a robust product stewardship program and air quality and water quality testing in Florida.

### **Reregistration Eligibility Decision (RED) Document on Organic Arsenical Herbicides**

The re-registration program at EPA was developed to evaluate pesticides registered prior to 1984 to ensure they meet today's more stringent requirements related to required data and risks to humans and the environment. This is an open process that welcomes input from stakeholders and other regulatory agencies. Where appropriate, the Department provides commentary on federal re-registration issues.

In 2006 the EPA issued a revised Re-registration Eligibility Decision (RED) document that concluded that these organic arsenical herbicides were not eligible for re-registration based on increased cancer risks from consumption of inorganic arsenic in potable surface water. The Department submitted comments to the EPA public docket supporting this decision. It cited the unique conditions in Florida that make the state's groundwater particularly vulnerable to leaching chemicals and the potential risks to human health from inorganic arsenic released from these herbicides. Since the release of this document, EPA has been in negotiations with the registrants on potential cancellation and phase-out of these products. The Department remains in contact with EPA to ensure that the Department's concerns are considered in the EPA final decision.

### **Aldicarb Reregistration Eligibility Decision Document**

In fall of 2007, the EPA released the RED document for aldicarb, an important pesticide for

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control of nematodes and other pests in citrus, potatoes, and peanuts. Of note in this document was the EPA's conclusion that a 300-foot setback from potable wells, (required by Florida rule and the label) was not sufficient to protect potable well water when aldicarb was used on peanuts. The RED document recommended that the potable well setback be increased to 500 feet for peanuts grown on vulnerable soils. Staff of SES and Bayer Crop Science (BCS) worked to refine the criteria for vulnerable soils, ensuring that the expanded well setback requirement was tailored to the appropriate areas. The Department anticipates that the revised labeling for aldicarb will be completed in 2008-2009.

## **Dimethoate RED Document**

In August 2007, the EPA released its final interim RED on dimethoate, an organophosphate insecticide, and concluded that the risk to potable surface water quality from use of this active ingredient on Florida citrus was unacceptable. Subsequently, the EPA recommended that all uses on Florida citrus be prohibited. Analysis by the Department indicated that this conclusion was overly conservative since approximately 90 percent of Florida's population obtains drinking water from groundwater, not surface water, and because the overwhelming majority of citrus is not grown near surface waters that provide drinking water. In addition, the risk assessment was unclear as to why this prohibition applied to Florida citrus but not citrus grown in other states. Citrus researchers and the Florida Fruit and Vegetable Association informed the Department that dimethoate (along with other insecticides) is needed to combat the citrus psyllid, the vector for citrus greening. Staff reviewed the drinking water assessment and began gathering information on the potable surface water bodies

in the state. The Department learned that of the 26 potable water intakes in Florida, only two are located with any proximity to citrus. Maps of watersheds and citrus areas have been provided to the EPA, and discussions with the agency to reinstate the use of dimethoate are continuing.

## **Endosulfan RED Document**

In the fall of 2008, the EPA released a revised human health and ecological risk assessment for endosulfan, as part of the RED process. The need for revisions to these assessments was based on the submission of additional data by the registrant to address gaps in the human health assessment, and consideration of the primary breakdown products in the ecological risk assessment. Staff of SES reviewed both of these assessments and provided comments to the EPA related to the revisions. In addition, the Department inquired as to whether the EPA will consider reinstating the tolerance and use of endosulfan on snap beans. Snap beans represent a very important commodity for Florida, which leads the nation in production for fresh market beans. Comments submitted by the Department stressed the importance of endosulfan for controlling white flies, the vector for the Bean Golden Mosaic Virus, on several vegetable crops including snap beans. (Additional information on endosulfan impacts on surface water is located below.)

## **Other REDs and Inquiry Responses**

In addition to the RED reviews described above, SES also reviewed the EPA RED documents or responded to public or sister governmental agency inquiries related to the active ingredients listed in the following chart. Inquiries included questions about impacts on human health, domestic animal health, ground or surface water quality, wildlife or native plants, food residues/safety, and honey bee colony collapse disorder.

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### Reviewed Active Ingredients:

1,3-dichloropropene  
2,4-D  
abamectin  
aldicarb  
amitraz  
atrazine  
bifenthrin  
boric acid  
buprofezin  
carbaryl  
chloropricrin  
copper pesticides

dazomet  
diazinon  
dichlorvos  
diphacinone  
disodium octaborate  
fenvaterate  
fipronil  
fluazifop  
diflubenzuron  
glyphosate  
imidacloprid  
lead arsenate

metaflumizone  
metam sodium  
methyl bromide  
MGK-264  
naled  
pendimethalin  
permethrin  
phosmet  
piperonyl butoxide  
pyrethrin  
spinosad  
trifluralin

### Groundwater Protection

#### Lake Wales Ridge Monitoring Network

The Lake Wales Ridge Monitor Well Network (LWRMN) in Polk and Highlands counties is a joint project of the Florida Department of Agriculture and Consumer Services, the U.S. Geological Survey (USGS), and the Southwest Florida Water Management District. Each of 30 monitoring wells taps shallow groundwater in sandy soils that are highly prone to leaching; all wells are located immediately adjacent to citrus groves and represent high-vulnerability scenarios with respect to groundwater contamination. Since the network's inception in 1999, the wells have been sampled quarterly and analyzed for a suite of agricultural chemicals.

The network continues to provide valuable information on the environmental fate and persistence of citrus agrichemicals in one of the most vulnerable regions of the nation. Data on specific pesticides has been provided to the EPA to aid the agency in making

pesticide re-registration decisions. In addition, the network serves as an early warning system for potential potable water threats.

This year, the Department and USGS continued efforts to expand the LWRMN to include wells located in non-citrus areas in the Lake Wales Ridge. This will allow the Department to evaluate the potential impact of golf courses and commercial and residential land uses. Project details are available at: [http://fisc.er.usgs.gov/Lake\\_Wales\\_Ridge/index.html](http://fisc.er.usgs.gov/Lake_Wales_Ridge/index.html).

#### 1,3-Dichloropropene Groundwater Study

The Department and Dow AgroSciences finalized the protocol for a study designed to evaluate the long-term risks to groundwater quality posed by the soil fumigant Curfew (1,3-dichloropropene). The study is being conducted to determine whether the mandated 100-foot application setback from potable wells is sufficient to protect drinking water resources. The site was instrumented after sufficient site characterization and the initial sampling event occurred in the



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fall of 2007. Quarterly groundwater sampling is proposed to continue for at least the next two years. The report is forthcoming.

## **Thiamethoxam Retrospective Groundwater Study**

In June 2005, Syngenta Crop Protection initiated a retrospective groundwater study of the insecticide thiamethoxam. The study was conducted at 12 vegetable fields in Hamilton, Suwannee, and Manatee counties. Each of the fields had reportedly received at least two thiamethoxam applications prior to initiation of the study. At each site a shallow and a deep groundwater monitoring well was sampled quarterly over the course of the study. The study reported relatively consistent detections of residues of thiamethoxam and its degradates, but at levels well below those posing a risk to humans. After almost three years of data collection, Syngenta Crop Protection approached the Department and requested permission to end the study. The Department reviewed the data and concurred. The report is forthcoming.

## **Surface Water Protection**

### **Endosulfan in South Florida**

In the summer of 2008, representatives from the Department met with individuals from the National Park Service (NPS) and other stakeholders concerning detections of endosulfan in canals on the eastern border of Everglades National Park. The area of concern is the C-111 canal that runs adjacent to vegetable production areas south of Homestead before entering the park boundary. The NPS is concerned that endosulfan and the sulfate degradate may impact aquatic organisms when water from the C-111 enters the park boundaries. Also of concern is the

bioaccumulation of endosulfan sulfate in the food chain. NPS has contracted with the Florida International University to monitor fish populations for endosulfan and endosulfan sulfate residues in fish. Additional monitoring of both water and sediments is scheduled in the area as the result of an EPA requirement of the pesticide manufacturer. Department staff will continue to work with all stakeholders to assist in data collection for risk assessments and risk management and to promote efforts for grower outreach and education.

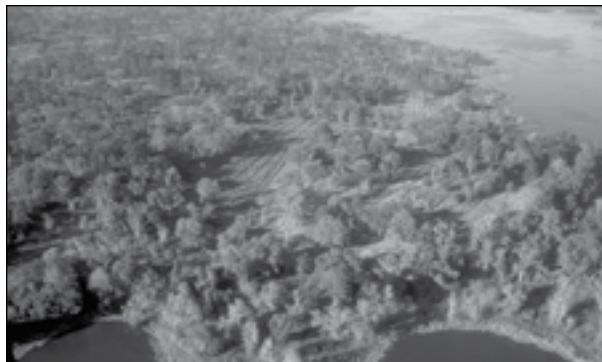
### **TIER II Computer Modeling for Surface Water**

Currently, the only scenarios that have been developed for estimating surface water concentrations for the purpose of risk assessment are a Mississippi farm pond and an Illinois reservoir. These scenarios are used with the EXAMS (Exposure Analysis Modeling System) and FIRST (FQPA Index Reservoir Screening Tool) models to estimate pesticide concentrations in surface water. However, due to Florida's unique climate, soils, crops, and agricultural practices, these scenarios may not accurately reflect Florida's environmental conditions. Therefore, in an effort to improve the environmental fate modeling capacity of the Department, SES is working with the EPA to create several water scenarios to better simulate a chemical's behavior in a Florida surface water body.

To replace the farm pond scenario for use in ecological assessments, scenarios of a South Florida canal and a Central Florida small lake are being developed for the 30-year simulations in EXAMS. A third scenario, which would simulate a North Florida pond, is also being considered. To replace the Illinois reservoir for surface drinking water assessments, scenarios

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for the Manatee River reservoir and possibly the Caloosahatchee River will be created to use in the FIRST model. SES is working with both the Florida Department of Environmental Protection and the EPA in filling the many parameters needed in the scenarios. When completed, these scenarios will further refine the Department's computer simulations and better predict the fate of pesticides in surface water.

### **Review of Surface Water Monitoring Programs**

In addition to actively participating in surface water studies, SES continues to review pesticide monitoring data from various local, state, and federal agencies. Given the Department's limited budget for monitoring surface waters, these alternate programs are useful in identifying potentially problematic pesticides. Outside agency efforts include activities conducted by Lee County, Collier County Pollution Control and Prevention Division, the South Florida Water Management District, and the U.S. Geological Survey.

### **Endangered Species Protection Program**

#### **U.S. Environmental Protection Agency "Bulletins Live!"**

In 2007 the Department's Endangered Species Protection Program web site was updated to

include information and links to the new EPA Endangered Species Protection Program web site and the "Bulletins Live!" system. The web site, [www.flaes.org/pesticide/scientificevaluation.html#ESPP](http://www.flaes.org/pesticide/scientificevaluation.html#ESPP), also includes plans on implementing the Endangered Species Protection Program at the state level.

Using the new "Bulletins Live!" system, pesticide users will select the county where they plan on applying a product that has an endangered species advisory statement. The user will then be able to retrieve the Endangered Species Bulletin which will provide maps of pesticide use limitation areas and applicable use restrictions for that specific active ingredient to protect endangered species in that region.

#### **Subcommittee on Imperiled Species**

The Subcommittee on Imperiled Species (formally known as the Miami Blue Butterfly Subcommittee), was created by the Florida Coordinating Council on Mosquito Control (FCCMC) to provide recommendations to the council regarding conduct of mosquito control that will: 1) allow for management and recovery of imperiled species by state and federal agencies and 2) allow the Mosquito Control Districts to continue to provide mosquito control as required by State Law under Chapter 388, F.S. The subcommittee meets semi-annually. Meetings this year have covered the following: status of the Miami blue butterfly including reintroduction of the species in public lands; updates on the field trials assessing the effects of mosquito control applications on the Miami blue; and discussions on the current mosquito control practices on and adjacent to the National Key Deer Refuge in the Lower Florida Keys where several imperiled species are located. To date, the subcommittee has agreed that there should be a management policy between the

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district and the refuge that addresses efforts to minimize drift of ground applications onto refuge lands including the use of wind streamers along refuge boundaries. There should also be a joint effort to educate homeowners that live adjacent to these parcels on the importance of mitigating spray drift to non-target areas. In addition, the refuge and district will continue to discuss possibly expanding the current no-spray zones to include areas of pine rocklands which contain habitat essential for the survival of the Bartram's hairstreak and Florida leafwing, two butterflies that are federal candidate species.

## **Assessing the Impact of Ultra-Low-Volume Application of Permethrin on Non-Target Aquatic Species**

In Florida the aerial application of permethrin for mosquito control is prohibited without the consent of the Department and is used only in an emergency situation (e.g., mosquito vectored disease outbreak). This restriction is based on risks to aquatic organisms from aerial application. SES is reviewing the relevance of this restriction with the Florida Coordinating Council on Mosquito Control (FCCMC). Department efforts include evaluating the environmental fate and toxicity of permethrin, working with University researchers to measure the deposition of permethrin, and determining the overall risk to non-target organisms. At the last FCCMC meeting, members voted to amend the aerial restrictions to allow the Department to approve aerial applications of permethrin when requested by the Mosquito Control Districts, provided that the applications are not made in sensitive estuarine habitats.

## **Pesticides and Honey Bees**

Widespread press coverage this year focused on Colony Collapse Disorder (CCD), a nationwide syndrome in which honey bees disappear

and hives perish. The list of possible causes included viral diseases, varroa mites, pesticide use, and stress of moving hives throughout the country. In response to allegations of pesticides as a possible cause of CCD, researchers have analyzed both honey and bee pollen (bee bread) within affected hives to determine the role, if any, of pesticides. Many pesticides were detected, mostly in small quantities. Uncertainty remains as to whether these residues are causing chronic effects on bee adults and brood. A class of pesticides repeatedly cited in the press as a possible cause of CCD is the neonicotinoids (e.g., imidacloprid). Recent bee kills in Germany were found to be caused directly by clothianidin, a newly introduced neonicotinoid insecticide, used to treat corn seed. However, the incident in Germany appeared to be isolated and involved misapplication of seeds that were improperly treated which resulted in dust exposure to bees. The difference between this incident and CCD is that the bee deaths in Germany were clearly the result of pesticide exposure as evident in the pesticide residues detected at levels considered acutely toxic to honey bees. The current proposed hypothesis by researchers is that pesticides may be one of a possible combination of factors (i.e., stressors) that lead to CCD. The Department will continue to monitor the research related to the cause of CCD.

## **Florida Fish and Wildlife Conservation Commission**

In October 2007 the Department hosted a workshop for the Florida Fish and Wildlife Conservation Commission (FWC) to provide information on how the EPA and the Department register, evaluate, and manage pesticides in Florida. The goal of the workshop was to address FWC concerns regarding the potential impacts of

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pesticides, primarily rodenticides, on non-target wildlife and endangered species. Attendees also discussed the proposed changes in the language found in the Take of Nuisance Wildlife Rule (68A-9.010) regarding use of pesticides. FWC agreed to amend the rule to allow for the use of pesticides without additional authorizations as long as the pesticides are registered by the Department and used in a manner consistent with the product label. The Department and FWC will continue to meet at least yearly to discuss issues concerning pesticide use and potential impacts to wildlife in Florida.

### Miscellaneous

#### **Pesticide Usage Information (PUI)**

Chapter 487.160, F.S., mandates that every three years the Department report on the use of Restricted Use Pesticides (RUP) in the state and also report the number of cases of RUP misuse, damage, or injury. To satisfy this statutory requirement, staff reviewed the latest available pesticide use information from the USDA National Agricultural Statistics Service and the Florida Agricultural Statistics Service and compiled them into a summary report. This report may be accessed through the Bureau of Pesticides web site and provides summary information on pesticides use in Florida agriculture and provides links to the latest mosquito control pesticide use information. Information on pesticide use on specific crops may be obtained by contacting the Bureau of Pesticides.

#### **Termiticide Efficacy Reviews**

In March 2003 the Department adopted the Termiticide Efficacy Rule (5E-2.0311 Florida Administrative Code), which requires that any product registered as a preventative treatment against termites in new construction in Florida must satisfy specific efficacy criteria. Since the rule's adoption, the division has reviewed

efficacy submissions from 32 registrants associated with 70 products. SES has posted 14 completed efficacy reviews on the division web site. For those products that were registered at the time of rule adoption but did not have a full efficacy data set, SES continues to work with these companies to gather the necessary efficacy data to satisfy the rule.

#### **Pesticide Registration**

The Pesticide Registration Section registers pesticides that are distributed, sold, or offered for sale in Florida. During fiscal year 2007-2008, 14,529 pesticide brands were registered for sale and distribution in Florida. Registration fees totaling \$3,695,265 were collected to support the Department's pesticide programs.

#### **Pesticide Registration Evaluation Committee**

Included in pesticide registration activities were reviews for special registration actions such as Experimental Use Permits, Special Local Need, New Active Ingredient, and Significant New Use registrations. These special registrations are reviewed by the Department and other affected state agencies through the Pesticide Registration and Evaluation Committee (PREC), a consensus-determining group that is responsible for evaluating pesticides, advising the Department of risks associated with the proposed use of the pesticides, and proposing solutions or actions for reducing risks to acceptable levels. The Registration Section's professional staff serves as both liaison and active participants in the PREC process. During this reporting period the Committee convened on twelve occasions to evaluate the following: 11 Special Local Need registrations, 17 Experimental Use Permits, 11 Significant New Uses, and 27 New Active Ingredient registrations.



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## Emergency Exemptions

Florida's diverse agricultural system, mild climate, and tourism/trade activities make the state particularly susceptible to the introduction and proliferation of pests. When an emergency condition arises and no effective registered pesticides are available to control a new pest or avert an anticipated significant economic loss due to an urgent and non-routine pest problem, the Department may submit petitions to the U.S. Environmental Protection Agency (EPA) for emergency exemptions from registration. Pest emergencies often involve introduced pest species of foreign origin, such as invasive insects, weeds, and plant diseases with the potential to inflict millions of dollars in losses of affected crops and commodities. Exemption requests frequently seek the use of new, low-risk chemicals that may actually decrease the total use of chemicals on the affected crops through their compatibility with integrated pest management programs and by eliminating or reducing repeated applications of broad-spectrum pesticides of limited efficacy. Further, these new chemistries usually have better environmental fate and non-target toxicity profiles than many of the older chemicals they are replacing.

The approval of emergency use exemptions is a critical part of the Department's efforts to assure the long-term viability of Florida's specialty crop producers and continued agro-economic development. The process provides important crop protection tools that maintain Florida's competitiveness in key domestic and international markets.

With the Department's technical support, the EPA issued eight emergency exemptions for pesticide use in Florida during fiscal year 2007-2008. The Department also continued its participation in the Federal Insecticide, Fungicide, and Rodenticide

Act (FIFRA) Section 18 improvement process. We reviewed the first Florida petition based on new economic models as published in the Section 18 rule that took effect on March 28, 2006.

During fiscal year 2007-2008, the Department requested that the EPA recertify Florida's exemptions for the use of the fungicide thiophanate-methyl to control *Fusarium* "hardlock" in cotton, post-bloom fruit drop in citrus, and white mold in fruiting vegetables.

In July 2007 the Department began participating in a series of meetings to discuss orange rust (*Puccinia kuehnii*), a new pest in Florida sugarcane. The Department conferred with the EPA Emergency Response Branch, USDA scientists, university regional scientists, representatives from other state departments of agriculture, sugarcane producers, and University of Florida IFAS plant pathologists to plot a strategy for control. This fungal pest was affecting a specific variety of sugarcane known for its high sugar content. The Department submitted to the EPA a three-year quarantine petition request for the use of both pyraclostrobin and metconazole to control this pest. In late spring 2008, before the EPA could complete its review, conditions worsened to the extent that it was necessary for the Commissioner to issue a crisis declaration for immediate implementation of control efforts.

This reporting period was the ninth and final year for the emergency use of coumaphos to control the small hive beetle and varroa mite in honeybee colonies. The EPA granted a FIFRA Section 3 Registration for this use in late fall 2007. The Department continues to work with industry representatives, university extension specialists, and federal agencies as new

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challenges, such as Colony Collapse Disorder (CCD), confront the entire beekeeping industry.

Florida sought and was granted a specific exemption by EPA for the use of fludioxonil to assist our tropical fruit industry in the control of dothiorella fruit rot in carambola.

The Department reviewed a request from a representative of our minor crop industry to assist them in applying for emergency use of metaldehyde to control snails in 300 acres of floating watercress. This petition to the Department was the first to incorporate a new EPA tiered economic approach to demonstrate a "significant economic loss" under the revised Section 18 guidelines. The petition was forwarded to EPA for review.

### **Registration Tracking System (RTS)**

The Pesticide Registration Section successfully completed the process of updating the 2007-2008 product brand registration information into Registration Tracking System (RTS). The RTS was upgraded to allow for the collection and posting of late product brand re-registration payment beginning February 1, 2008, and biennial registrations beginning in November 2008 for 2009 and 2010. The section conducted Registration Tracking System training sessions for local staff and enforcement field staff.

The section continued its assistance to the Bureau of Compliance Monitoring in the creation of their Pesticide Use Permitting System (PUPS). A module was added to RTS to assist the bureau's efforts. The PUPS focuses on tracking permits for a single pesticide active ingredient, but it will have the capability to track other active ingredients whenever the need to do so is identified by the Department.

During this reporting period the Department's new "e-gov" credit/debit card system was fully implemented and successfully used by a large number of pesticide registrants for payment of both new and renewed product brands. In a related effort to improve services, the Registration Section continues to participate in a national e-label pilot project entitled ALSTAR (Accepted Label State Tracking and Repository). This e-label project is being coordinated with other state registration programs through the National Pesticide Information Retrieval System and is designed to make pesticide labels available on-line. Current participation of the ALSTAR project has grown to 25 states agencies and 25 pesticide companies.

In fiscal year 2007-2008, the Registration Section received a Davis Productivity Award for improvements in the pesticide registration tracking process. The RTS, coupled with improved standard operating procedures and data quality control measures, enabled the Pesticide Registration Program to collect \$932,383 in additional revenues over the past three fiscal years. The enhanced process also allowed for improved notification of registration acceptance to companies. This was accomplished despite the loss of one clerical position. Also in fiscal year 2007-2008, the RTS received an excellent audit report from the Office of the Inspector General.

### **Pesticide Laboratory**

The Department's Pesticide Laboratory analyzes a variety of official samples, including formulated pesticide products, pesticide application tank mixes, and environmental samples to support compliance investigations and pesticide management activities. Formulation analyses are performed in accordance with Florida

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Statutes for label guarantee, and tank-mix sample analyses are performed to assess the use percentages of the active ingredient. In fiscal year 2007-2008, a total of 102 formulation and/or tank-mix samples were analyzed, requiring 3,146 sample determinations to verify whether the percentages of guaranteed active ingredients were within allowable tolerances. The rate of violations encountered for product formulations testing this past year was 13.8 percent.



In support of registration, compliance, and technical assessment activities, 545 environmental samples were analyzed, requiring 64,552 determinations. To ensure a high quality of analysis, the laboratory analyzed 1,110 quality control samples, requiring 32,782 determinations. Quality assurance samples were analyzed for method development and validation as well as for control of routine sample analyses. Over all, the laboratory reported 7,787 more sample determinations during fiscal year 2007-2008 than were reported for fiscal year 2006-2007. The main reason for the continued increase in determinations is due to the quantity of pesticide screens requested by the pesticide program areas.

The laboratory responded to a wide variety of method development requests and increased its screening capabilities during the past year.

Method development work for individual compounds and related analytes was conducted in a variety of environmental matrices (e.g., soil, water, vegetation). In addition, method development work continued in the area of fumigant and air quality analysis techniques utilizing Purge/Trap sample introduction techniques with Gas Chromatographic/Mass Spectrometric capabilities. The laboratory also assisted the Bureau of Entomology and Pest Control by conducting tests on borate termiticides.

The laboratory's technical training program continues to include in-house proficiency samples. In addition, the laboratory also successfully participated in two external check sample programs during 2007-2008, the AAPCO Formulation check sample program and the EPA/WI Pilot Residue check sample program. Further, the laboratory is actively involved in revising and preparing all of its Standard Operating Procedures in preparation for applying for ISO 17025 Laboratory Accreditation.

The Laboratory Section received two Davis Productivity Awards during fiscal year 2007-2008. The first was for the expansion of analytical screens for pesticides in environmental samples. The second was for the enhanced extraction of recalcitrant herbicides from environmental samples. The awards recognized the substantial benefits resulting from more efficient and expanded screening capabilities. The laboratory also continued to enhance usage of the Laboratory Information Management System (LIMS) during fiscal year 2007-2008 and prepare for the upcoming Division wide LIMS implementation. This automated electronic sample processing software will continue to allow the laboratory's customers to navigate

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and track all sample analysis activities, further improving the overall quality and efficiency of data generated for the laboratory's customers.

### **Pesticide Certification and Licensing**

The Pesticide Certification and Licensing Program helps to ensure a safe food supply, healthy environment, and the protection of workers and the public through training and competency testing of pesticide users. This program is coordinated with the U.S. Environmental Protection Agency (EPA) and the University of Florida (UF) to ensure consistency in educational efforts and certification standards. EPA has approved the Department's program as meeting federal pesticide applicator certification requirements, and EPA staff provides limited guidance and program assistance as needed. UF assists by developing training manuals and certification exams, providing training classes and workshops, and administering the majority of the certification exams.

In fiscal year 2007-2008, the Department issued or renewed 3,370 pesticide applicator licenses and 500 pesticide dealer licenses. The total number of active licenses as of June 30, 2008, was 11,689. Department staff approved 1,492 pesticide training programs to issue continuing education units (CEUs) for pesticide applicator recertification and license renewal, making available 10,749.5 CEUs for license renewal. An online CEU class search is available to help pesticide applicators locate training opportunities that provide CEUs. Department staff also monitored 38 hours of training classes throughout the state and gave nine presentations on pesticide laws and regulations, licensing requirements, and procedures relevant to pesticide use.

### **Aldicarb Permit Program**

The Aldicarb Permit Program tracks the use of the restricted-use pesticide aldicarb (Temik) in Florida to ensure protection of groundwater from contamination with aldicarb residues. All uses of aldicarb must be approved prior to application, and soil type and wells must be identified for each application site before permits are issued. In fiscal year 2007-2008, the Department issued permits for aldicarb to be applied to 3,882 sites in Florida, including 555,487 acres of citrus, 25,733 acres of potatoes, 28,814 acres of peanuts, and 9,660 acres of cotton. Permit applications may be submitted by fax or mail or online at [www.temikpermit.com](http://www.temikpermit.com). Information about the aldicarb program and permit applications are available on the Department web site [www.flaes.org](http://www.flaes.org).

### **Aircraft Registration Program**

The Department administers a registration program for aircraft used to apply or dispense pesticides, fertilizer, and seed. Aircraft owners/operators are required to register all aircraft used and must also report to the Department all sales, purchases, leases, and other transactions involving these aircraft. As of June 30, 2008, there were 131 aircraft registered. The number registered to apply each of the following products is as follows: 75 public health pesticides; 50 agricultural pesticides; 26 fertilizer; 24 seed; 11 bait; and 10 burn agents.

### **Worker Protection Program**

The Department uses a multifaceted approach to protect agricultural workers from pesticide hazards. Certification and licensing is required of individuals who use restricted-use pesticides to ensure they are aware of pesticide safety requirements and are competent to use pesticides properly. Since the inception of the program, the Department has certified and licensed over



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7,500 individuals to use restricted-use pesticides in agricultural sites, and there are currently over 11,000 individuals licensed. Also, licensed pesticide applicators are required to train their unlicensed assistants on pesticide safety before restricted-use pesticides are handled.

The Department enforces the federal Worker Protection Standard (WPS) in Florida, which requires pesticide safety training for all agricultural pesticide handlers and agricultural workers who work at agricultural sites where pesticides have been applied in the last 30 days. The training must include information on how pesticides enter the body and how to prevent pesticide exposure. Since the inception of the program, approximately 2,500 individuals have been certified to conduct WPS pesticide safety training. A total of 59,605 EPA worker cards and 10,278 EPA handler cards have been issued to certified trainers to issue to individuals they train. The EPA card system is voluntary, and the numbers do not represent the total number of individuals trained. Last year a new database/training program for the “train the trainers” was implemented to provide better reporting information.

The Florida Agricultural Worker Safety Act (FAWSA) is also enforced by the Department and requires agricultural employers to provide a fact sheet or Material Safety Data Sheet (MSDS) to agricultural workers upon request so workers will know the hazards of pesticides they may be exposed to in the work place. Under FAWSA requirements, the Department also makes available a pesticide safety sheet in English, Spanish, and Creole/Haitian with illustrated instructions on preventing pesticide exposure and a toll-free telephone number for the Florida Poison Control Centers. To date, over 50,000 pesticide safety sheets have been distributed by

the Department to assist pesticide safety trainers. The safety sheet can also be downloaded from the Department’s web site at [www.flaes.org/complimonitoring/workersafety/index.html](http://www.flaes.org/complimonitoring/workersafety/index.html).

During the 2007-2008 fiscal year, the Department conducted 1,240 Worker Protection Standard (WPS) inspections at farms, forests, nurseries, and greenhouses. Two hundred sixty-three, or 21 percent, of these inspections identified violations of the Worker Protection Standard, and a total of 478 violations were identified for the year.

In addition to enforcing the worker protection standards set out under state and federal law, the Department conducts education and outreach programs for agricultural workers. Sessions are conducted to educate workers about pesticides, and a bilingual outreach educator is available to meet with workers as needed. In addition, the Department conducts “train the trainer” programs in order to reach more workers through the help of other workers and worker organizations.

The Department strongly encourages workers to seek immediate medical attention if they believe they have been harmed by pesticides while working. Workers are also encouraged to promptly report potential violations of the WPS to the Department for investigation and response. Under the WPS, workers must be notified about treated areas so they may avoid inadvertent exposures; handlers and workers must be supplied with water, soap, and towels for routine washing and emergency decontamination; transportation must be made available to a medical care facility if a worker or handler may have been poisoned or injured; and information must be provided about the pesticide to which the worker may have been exposed. Additionally, personal protective equipment must be provided

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and maintained for handlers and early-entry workers; safety training is required for all workers and handlers; a pesticide safety poster must be displayed; handlers and workers must be informed of pesticide label requirements; and central posting of recent pesticide applications must be displayed.

### **Pesticide Regulation**

The Pesticide Compliance Section helps ensure that pesticides are used correctly and according to the rules and laws developed to protect consumers, the environment, and our food supply. For the 2007-2008 fiscal year, 426 specific complaints, tips, and allegations were investigated. Samples were collected of various pesticides to assure that they were formulated correctly and contained precisely what their labels guaranteed. Allegations concerning pesticides drifting from a targeted area onto other non-target areas were investigated, and samples of soil, water, and vegetation were collected from the areas in question and analyzed. Fish, bird, and animal deaths allegedly caused by pesticides were investigated. Claims of pesticide exposure were investigated, including claims of pesticide exposure to farm workers. Section staff worked to ensure that the Worker Protection Standard was followed on various agricultural establishments throughout the state. Investigations were also conducted to ensure that pesticides imported into Florida were properly registered and allowed to be used.

For the 2007-2008 fiscal year, the Department conducted 1,935 pesticide inspections at agricultural, non-agricultural, and product-related establishments. Two-hundred and four, or 11 percent, of these inspections identified violations totaling 400 violations of the Florida Pesticide Law. The Department issued 368

enforcement actions during the 2007-2008 fiscal year, 99 of which were administrative fines. The Department assessed \$59,400 in fines and collected \$36,337 in fine money during the 2007-2008 fiscal year.

Some of the more common violations identified during the 2007-2008 fiscal year include 478 violations of the Worker Protection Standard, 33 violations for lack of personal protective equipment, 40 unregistered pesticides, 24 misbranded pesticides, 27 incomplete applicator records, six restricted-use/purchase violations, and three pesticide drift violations.

### **Pesticide Use Regulation Program**

The Pest Control Enforcement Section investigated 535 consumer complaints and conducted 3,361 licensed business inspections. Enforcement activities for the year resulted in the issuance of 476 enforcement actions and the imposition of \$195,250 in fines. In addition to the fines that were issued, the bureau also revoked five Pest Control Operator certificates and one Pest Control Business License; suspended two business licenses; placed two business licensees on probation; issued 130 warning letters, 62 advisory notices, and 90 cease-and-desist orders; and conducted 63 informal hearings. The Bureau of Entomology and Pest Control also developed a risk-based enforcement policy which focused its efforts on illegal pest control in Florida. The new policy resulted in taking 99 enforcement actions (20 percent of the total enforcement actions) against illegal pest control operators. Moreover, the fine amount assessed against the illegal operators totaled \$103,525, which represents approximately 53 percent of the total fines issued through its enforcement activities. The bureau added a second Agricultural Law

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Enforcement officer, who will further assist field enforcement staff with illegal pest control activities and protect consumers against criminal pest control perpetrated by illegal operators or licensed pest control companies.

The Bureau of Entomology and Pest Control's Document Issuance Section is responsible for issuing documents such as licenses, permits, certificates, and identification cards to approximately 55,000 members of the pest control industry. The bureau issued or renewed 4,503 business licenses, 8,503 certified operator's certificates, 37,947 employee identification cards, and 3,466 limited governmental/private and limited lawn maintenance certificates. Additionally, certification examinations were administered to 2,493 applicants. The section is currently working to enhance its capabilities through the development of an electronic document filing system. Once completed, this enhancement will provide bureau personnel with the ability to search and obtain documents and information electronically, eliminating the need to perform this task manually and eliminating the need for storage space to house document filing cabinets.

The bureau continued its efforts to work with the pest control industry with the development of new statutory requirements in several sectors of the pest control industry. Regulations were modified to address automated misting pesticide devices and independent contracting of employees. Continued efforts in fumigation safety, contracts for preventive termite treatments for new construction, and compliance with the commercial landscape maintenance industry were additional areas of interest. The bureau is committed to continuing the efforts to work with the Pest Control Industry to address

consumer-related issues as well as industry issues. It conducts regular workshops with the industry to modify statutes and rules to provide clear guidance to the regulated industry.

## **Operation Cleansweep**

The Bureau of Compliance Monitoring coordinated with the Florida Department of Environmental Protection to conduct "Operation Cleansweep," a mobile pesticide collection program that provides a safe way to dispose of cancelled, suspended, and unusable pesticides at no cost. This program collected a total of 82,895 pounds of pesticides in fiscal year 2007-2008 from farms, nurseries, golf courses, and pest control firms throughout the state.

## **Mosquito Control Program**

The Department held three meetings of the Florida Coordinating Council on Mosquito Control during fiscal year 2007-2008. Some of the issues considered included recommended changes to label language for the use of Permethrin for aerial application, electronic arthropod control plans, mosquito control on wildlife refuges, residential mosquito misting systems, and Department mosquito control research grants.

There were 16 Public Health Pest Control certification training sessions provided throughout the state, and 302 certificates were issued or renewed. Active licenses for the section include 1,499 Public Health Pest Control certified applicators and 134 Aerial Public Health applicators. The Department awarded \$1,802,000 in mosquito control aid to the districts in fiscal year 2007-2008, and allocated \$250,000 for mosquito control research through its competitive grants program.

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## **Operational Support Dog Fly Program**

The legislature voted to discontinue the Operational Support Dog Fly Program during the 2008 Legislative Session.

## **Mosquito Control Incident Response Team**

Due to limited hurricane activity, the Mosquito Control Incident Response Team was not activated during the 2007-2008 fiscal year. However, the team conducted in-house training exercises to prepare for the 2008-2009 hurricane season.

## **Commissioner's Agricultural Environmental Leadership Awards**

The 2007 Commissioner's Agricultural Environmental Leadership Awards were presented on October 12, 2007, to four agricultural operations in recognition of

their leadership in promoting progressive environmental practices. The awards program is in its 14th year and has recognized a total of 45 winners. The 2007 winners are: Butler Oaks Farm, in Lorida; Gwinn Brothers Farm, in McAlpin; Buck Island Ranch, in Lake Placid; and Fraleigh Nursery Inc., in Madison.

Each year, nominations for the awards are reviewed by a screening committee composed of scientific and technical experts with the Department, which selects the finalists. The winners are selected from the group of finalists by a selection committee made up of representatives from The Nature Conservancy, the state's Water Management Districts, the Florida Farm Bureau, the Florida Cattlemen's Association, the Florida Dairy Association, the Florida Department of Environmental Protection, the Florida Fruit and Vegetable Association, the Florida Fish and Wildlife Conservation Commission, Florida's Soil and Water Conservation Districts, Florida Citrus Mutual, the Florida Forestry Association, and the Florida Nursery, Growers and Landscape Association.



## **Division of Forestry**

### **Forestry Programs**

#### **Wildfires**

There were 3,222 wildfires during fiscal year 2007-2008, compared to 4,520 wildfires during the 2006-2007 fiscal year. The number of human-caused fires was down from 3,636 in the 2006-2007 fiscal year to 2,002 during the 2007-2008 fiscal year. The decline in human-caused fires can be attributed to improving rainfall amounts and the implementation of the Division of Forestry's aggressive marketing campaign through radio public service announcements and movie advertisements. During the fourth quarter



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(April through June) 45 percent of wildfires were caused by lightning. This period is usually the most active of Florida's fire season. From April through June, 647 fires were started by lightning. The second leading cause was incendiary, which accounted for 165 fires.

The Division of Forestry dispatched several Incident Management Teams during the 2007-2008 fiscal year. In August the Florida Green Team and the Florida Gold Team were deployed to the Brush Creek fire near Kalispell, Montana. The Florida Red Team was assigned to the Brevard Complex, which was Florida's most publicized wildfire. The Florida Gold Team was assigned to the South One Fire in Virginia. Finally, the Florida Blue Team was assigned to the Evans Road Fire in North Carolina to provide assistance through the Southeastern Interstate Forest Fire Protection Compact agreement.

## Forest Protection

Forestry personnel made 5,109 media contacts during this fiscal year as local Field Units made the public aware of the extreme dry conditions existing in the state. Public information about Florida's extended drought and the increasing wildfire risk throughout the state was the topic of local news releases, presentations, and workshops across the state.

While informing the public about wildfire risk, mitigation specialists and other local personnel took the opportunity to increase efforts to expand Forestry's Firewise Communities USA program and develop local and countywide Community Wildfire Protection Plans. During the year, the number of nationally recognized Firewise Communities USA rose from 16 to 50 in Florida, the largest increase in the United States. These are all local communities that have made

plans and taken steps to lower their community's wildfire risk using research tested Firewise principles. All of the Florida communities were renewed as Firewise.

Messaging about wildfire risk and increasing awareness of wildfire prevention significantly impacted the number of human-caused wildfires during the year. Statewide, the number of human-caused wildfires dropped 57 percent, from an 18-year average of 3,428 to 1,464. This decline is even more significant when viewed in light of the fact that Florida was experiencing a multiyear drought during this time. In other years, such drought conditions have been associated with an increase of wildfires, not a decrease.

Local Field Units were still busy during the year. The following is a capsule of the accomplishments of the Mitigation Specialists:

Radio contacts	907
TV contacts	1,499
Newspaper contacts	1,436
News releases prepared	118
Homes visited door to door	272
Presentations and local workshops for 7,681 participants	92
Arson Alert signs posted	842
Brochures/fliers distributed	6,553
Home and community wildfire risk assessments completed	70

In addition, Mitigation Specialists assisted Local Mitigation Strategy (LMS) committees in their counties to prepare or update LMS plans about wildfire risk issues. Community Wildfire Protection Plans were started in seven areas and completed in four.

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From March through June, the Division of Forestry ran an intensive statewide radio campaign with three wildfire prevention announcements. Two 30-second spots focused on "Know the Law before You Burn" and "You May See an Arsonist at Work," and one 60-second radio spot provided listeners with tips on "How to Have a Firewise Home." The "Know the Law Before You Burn" and "How to Have a Firewise Home" radio spots were translated into Spanish and aired on several Spanish stations throughout Florida. The radio spots were broadcast for seven weeks during the most active portion of Florida's wildfire season on more than 67 affiliate radio stations, reaching an estimated 3 million people.

A movie theater advertising campaign ran from March through May during the most active part of wildfire season. Arson fires have been steadily increasing over the past few years so the message "Woods Arson is Not a Victimless Crime" was the only message used in this year's movie ad campaign. This ad was shown on 433 movie screens throughout Florida before each

movie. Over one million people have viewed these ads at an average cost of \$15 each week per movie screen.

Fifteen mobile billboards were created with several interchangeable messages: Smokey Bear and his message "Only You Can Prevent Wildfires," "Think Before You Burn," "Woods Arson Is Not a Victimless Crime," and a prescribed burning message. Each Field Unit received one billboard with several interchangeable prevention messages.

Another campaign developed last year to help prevent arson fires was the "Target Arson" campaign. Several thousand hunting targets and license holders with an arson message and the Arson Alert Hotline number were distributed to gun ranges and stores throughout Florida that sold hunting licenses and equipment.

The National Smokey Bear Awards are presented annually by the National Association of State Foresters, the U.S. Department of Agriculture's Forest Service, and the Ad Council. Ten Bronze Smokey awards can be presented each year to recognize outstanding fire prevention efforts that have an impact statewide. This year, Florida received two of the six awards given. Forestry's Fire Weather Education Team received a Bronze Smokey for developing a wildfire prevention message related to weather and fire behavior. This campaign was designed to reduce the high number of escaped debris burns occurring during marginal to extreme weather conditions. Members of the team were Ralph Crawford, Dr. Deborah Hanley, Ronda Sutphen, Pilar Hinchliffe, Linda Gainous, Bob Rhea, Todd Schroeder, Annaleasa Winter, Ludie Ehlers, Timber Weller, Don Ruths, Patrick Mahoney, Melissa Yunas, Gerry LaCavera, and Scott Peterich.

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The team organized a Fire Danger Weather Kit contest in partnership with statewide TV meteorologists. The meteorologists were encouraged to incorporate fire weather conditions into their daily television weather forecasts to educate the public. Local weather programs allowed Division of Forestry to reach a larger audience with fire prevention messages. The contest received coverage throughout Florida, southern Alabama, and southern Georgia during Florida's Wildfire Awareness week.

Annaleasa Winter, Division of Forestry Mitigation Specialist, received a Bronze Smokey for her work in fire prevention. Winter has used the mass media market to provide public information and education during periods of extended drought and increased fire activity in Florida. She has developed a children's fire prevention campaign that includes both Smokey Bear and a conservation message. These children's prevention events have impacted over 5,000 youngsters. Winter has introduced the Florida Wildfire Prevention curriculum into 85 elementary schools and libraries and trained 150 teachers in its use and application. As the North Florida Regional Fire Prevention Coordinator, Annaleasa has assisted the local field units in obtaining over \$300,000 of grant funding for prevention and mitigation programs and over \$15,000 for specific local fire prevention projects.

The first ever in-depth wildfire prevention study was conducted by the U.S. Forest Service Research Station in North Carolina using data from Forestry's wildfire prevention and mitigation program. Preliminary results show that the division has spent an average of \$0.6 million per year from 2000-2005. The losses averted during this same period totaled \$123 million per year.

Prescribed burning acreage increased in fiscal year 2007-2008. The Division of Forestry authorized nearly 2.3 million acres, an increase of over 25 percent from the 1.8 million in fiscal year 2006-2007. This higher acreage figure can be attributed to increased efforts on the part of land managers and more favorable weather conditions than in recent years. Prescribed burning is an important land management tool in Florida. It increases forest health, improves wildlife habitat, and reduces the risk and severity of wildfires.

The Division of Forestry administered the Volunteer Fire Assistance (VFA) Grant Program to volunteer fire departments that serve rural communities. Approximately \$278,261 was awarded to over 50 fire departments. This was a 50 percent matching grant fund, which enabled the fire departments to purchase approximately \$556,522 worth of equipment, communication devices, prevention materials, and firefighter protective gear. In addition, there are currently 53 fire department-approved VFA grants that will pay out \$253,700 when they are completed.

The division also screened \$5.6 million in federal excess property to support its fire program. A good portion of that equipment was in the form of military trucks that went to rural fire departments. The majority of the 58 trucks that were provided were 6x6, 2.5-ton military trucks with automatic transmissions and super-single tires. Fire departments convert these units to brush engines to assist the division with wildfire suppression. Without assistance from these small rural volunteer fire departments, the wildfire problems in Florida would be much more severe.

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## Natural Resource Management

The Division of Forestry manages natural resources by acquiring land, providing technical assistance to private landowners, and operating programs on state forests and other state lands. The Division of Forestry employs multiple-use principles to ensure a sustained healthy forest for 1,033,795 acres on 35 state forests. The most current scientific knowledge is used to ensure good stewardship and the practice of silviculture based on sound ecological principles. The Department supports other state agencies as a cooperating manager on 275,000 acres and assists management on an additional 475,000 acres of public forests through special agreements with such public entities as the Department of Environmental Protection, the Florida Fish and Wildlife Conservation Commission, Water Management Districts, Department of Corrections, and various counties.

Land acquisition closings through the Division of Forestry Additions and Inholdings Program of Florida Forever totaled 1,553 acres at a value of \$3,829,000. A total of 17,766 acres were added to the state forest system during the year under Florida's Conservation Land Acquisition Program. All of these lands are managed to provide as many compatible uses and benefits to the public as possible while still providing protection for threatened or endangered species of plants and animals. During the fiscal year state forest managers completed 15,056 acres of non-native, invasive plant treatments on 24 state forests, using a combination of in-house staff and contractual services. Public recreational opportunities on these lands include fishing, hunting, hiking, picnicking, canoeing, camping, swimming, bird watching,



bicycling, and horseback riding. Approximately 834,466 visitors participated in these activities during the year. The management of state forests generated revenues of approximately \$8.027 million during the year, with an estimated \$6.13 million generated from the sale of timber. The remainder was generated from other state forest income, including recreation fees. Fifteen percent of the revenue from state forest operations is paid back to the counties where these forests are located. The revenue returned to counties for fiscal year 2006-2007 was \$984,021. It is anticipated that approximately \$1,156,226 will be returned to counties for fiscal year 2007-2008. There are substantial direct and indirect benefits provided to local governments from the management of these lands.



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## Technical Assistance

The Division of Forestry provides technical assistance to help private landowners and communities make intelligent decisions to develop and achieve their objectives in forest land management. The Forest Stewardship Program, part of a national initiative that encourages private forest landowners to manage properties for multiple uses, provided 121 Forest Stewardship Plans on 39,633 acres. Thirty-six landowner properties were certified as Stewardship Forests.

The Forest Land Enhancement Program awarded a total of \$175,000 in cost-share funding to 51 non-industrial private forest landowners to help them implement forest management activities on 1,853 acres.

During the fiscal year the Southern Pine Beetle Prevention Cost-Share Program approved a total of \$624,622 for 246 landowners to conduct thinning and prescribed burning treatments on 29,445 acres of pine forests.

The Division of Forestry also closed out two hurricane recovery private landowner assistance programs provided through the USDA Forest Service for recovery from the 2004 hurricane season. The two programs were the Forest Stewardship Hurricane Recovery program that provided over 6,696 private forest landowners with professional forestry recommendations for forest land restoration and the Forest Land Recovery Program that provided \$6 million in cost-share assistance to 699 private forest landowners to restore 44,086 acres of forest land.

The Division of Forestry's Andrews Nursery produced and sold 6.3 million bare-root pine

seedlings and 4.5 million containerized pine and wiregrass seedlings to 638 customers, which generated more than \$1,017,281 in revenue. The Division of Forestry's seed orchards at Blackwater and Withlacoochee collected over 2,217 bushels of pine cones which yielded 2,198.6 pounds of pine seed. Additional revenue of over \$196,000 was generated by the sale of 8,039 pounds of surplus seed from the seed inventory.

The Division of Forestry awarded \$274,960 in federal urban and community forestry grants to a total of 26 non-profit organizations, local governments, and educational institutions to enhance their ability to carry out effective urban forest management programs in their respective communities. The Division of Forestry also closed out hurricane recovery funding to communities recovering from the 2004 hurricane season. A total of 214 local governments, educational institutions, and non-profit organizations received \$14,416,240 and planted 137,057 trees, repaired 18,613 trees, conducted 32 community forest assessments, and conducted 35 mitigation/remediation projects. Additionally, funding was provided for a similar program for communities recovering from Hurricane Wilma in 2005. Twenty-six communities received \$704,429 to plant 5,427 trees, repair 641 trees, conduct three community forest assessments, and conduct three mitigation/remediation projects. This program ends September 30, 2008.

## Field Operations

The Division of Forestry's forestry programs are implemented by Field Operations staff located in the state's 15 field units and the Tallahassee

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state office. The field units are grouped into four regions, each under a Deputy Chief of Field Operations. The multifunctional workforce of personnel and equipment provides a responsive and comprehensive approach to land management and wildfire control statewide.

### **Forest Resource Planning and Support Services**

The Bureau of Forest Resource Planning and Support Services provides technical support to all bureaus within the Division of Forestry. Sections include professional staff to address issues in hydrology, information technology, construction, fleet management/equipment, and planning.

### **Hydrology**

The Division of Forestry is responsible for the development, implementation, and monitoring of Silviculture Best Management Practices (BMPs) that protect the state's water resources, and for implementing hydrologic and wetland restoration on state forests.

Silviculture BMP training accounted for 18 workshops conducted statewide to continually update landowners, loggers, and foresters on recent changes. Over 450 individuals participated in these training sessions.



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Voluntary Silviculture BMP Courtesy Checks were performed on 27 individual landowners throughout Florida where bona-fide ongoing forestry operations have occurred.

The Silviculture BMP Implementation Survey was initiated in 1981 and has since been conducted biennially. The principal purpose of the survey is to determine the level of implementation (compliance) with Florida's Silviculture BMPs. The survey is conducted throughout the state, on a random sample of recent forestry operations. Both public and private forest lands that meet the selection criteria are eligible for the survey. Considering all practices in all BMP categories, statewide implementation in 2007 was 98.6 percent.

In addition, the Division of Forestry continued to solicit participation by forest landowners in Florida's Administrative Rule 5I-6, which provides additional incentives to comply with forestry BMPs. Rule 5I-6 became effective on February 11, 2004, and over 8,000 individual tracts totaling over 5.1 million acres were enrolled in the program through the end of fiscal year 2007-2008.

With cooperation and assistance from other state and federal agencies, wetland restoration efforts continued on Florida's state forests in fiscal year 2007-2008. During the past 12 months, eight restoration projects were initiated on five state forests, enhancing wetland values and restoring approximately 5,655 acres of impaired wetland functions. Recent work included initial exotic plant (melaleuca) treatments in partnership with DEP and Collier County within a Regional Off-site Mitigation Area (ROMA) on the Picayune Strand State Forest.

Total estimated cost of wetland restoration activities on state forests during fiscal year 2007-2008 was approximately \$61,000. The Division of Forestry's share of these costs amounted to approximately \$8,500, or 13.9 percent of the total expended. The balance was provided through direct project funding, Florida Department of Transportation mitigation funding, federal grants, and mitigation programs administered by the Water Management Districts.

Since the Division of Forestry began its Wetland Restoration Program on state forests in 2000, 58 projects have been initiated on 18 state forests. Over 30 of these projects have been completed, with a projected ecological benefit to over 66,000 wetland acres. Total expenditure for all restoration projects on state forests to date is approximately \$1,189,000, of which the division's share is \$168,268, or 14.1 percent of the total expended.

In 2007 the Division of Forestry's Hydrology Section initiated a comprehensive assessment program to determine the hydrological restoration needs on all state forests. Thus far, over 160,000 acres have been assessed, spanning 29 tracts on 13 state forests and identifying 344 potential restoration project sites.

## **Information Technology**

The Forestry Information Technology (IT) section supports microcomputers, applications, Geographic Information Systems (GIS), and Global Positioning Systems (GPS) for the Division of Forestry throughout the state. Related functions include: hardware and software acquisition, installation and maintenance, Intranet/Internet web page management, application development and maintenance, ongoing upgrading of computer networks, and

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spatial analyses. These activities are in support of land management and wildfire prevention and management activities in the Division of Forestry.

The Application Support group focused on three main projects. The Forestry Services Vendor Database (<http://fsvd.fl-dof.com/>) is an Internet application written to assist the public in locating various forest management-related services. The Cooperative Equipment Lease System was rewritten and migrated to an Intranet application used to maintain an inventory of state and federally acquired property on lease to various agencies throughout the state. This year the Division of Forestry entered into the last phase of the FMIS refactor project. Deployment of the application is scheduled for August 2008.

The Division of Forestry web support, for both Intranet and Internet pages, concentrated around maintenance and updates. Visits to the division's web site totaled 1,601,829, excluding visits from Department computers. The division continued to use the web site to keep the public informed about wildfires. A daily report updating the current wildfire situation and maps showing current wildfire locations, KBDI, and burn ban information, as well as helpful links to fire weather, road closings, wildfire prevention, and smoke information were posted. On January 1, 2008, the Division of Forestry launched a new web site to provide information on Off-Highway Vehicle (OHV) recreation to the public. In the first six months the OHV web site, [www.floridaohv.org](http://www.floridaohv.org), received 9,942 views.

The GIS/GPS support group focused on uploading State Lands Forestry GIS data into the enterprise GIS database and training users. A prototype web application for the Forestry Data Model data was created through ArcGIS Server. Hard-copy and web-based maps depicting wildfire progression,

fire perimeters, point locations, fires over 100 acres, burn bans, and wildfire complex maps were provided for wildfire support. A statewide GIS analysis was performed to determine the area of fire protection provided to the counties. GIS technical expertise was provided to the FMIS Refactor project. The Southern Fire Risk Assessment System (SFRAS) was tested in its final version on the ArcGIS 9.2 platform. Additional work on the Communities at Risk dataset for Florida continues to be assessed. As new Internet and GIS mapping technologies evolve, methods to make GIS data accessible over the Internet are being explored.

The Desktop Support section deployed 48 new, GIS-capable laptop computers for the County Foresters. The laptops previously used by the County Foresters were relocated to the equipment shops to enable the use of their repair software programs at the location of the equipment. Wireless Access Points for the equipment shops were purchased to provide wireless Internet access. A web-based application was tested and deployed to replace an older client-server application used to connect to state mainframe applications. Using a web-based application simplified license management and the installation process and was a cost savings.

### Construction

The Construction Section provides complete project management for the Division of Forestry's fixed capital outlay projects, including construction and maintenance programs statewide. During fiscal year 2007-2008, an estimated 46,000 square feet of building space was contracted to be constructed at a cost of approximately \$5.8 million. The Construction Section coordinates design, engineering, bid



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specifications, and construction management for each project. A current major project is the construction of the new Waccasassa Forestry Center Headquarters complex in Gainesville, which is 20,000 square feet of facility space at a cost of \$2.7 million. The new facility improves the Division of Forestry's capabilities for firefighting, forest management, and access to the general public. Total current active projects are as follows:

Waccasassa Forestry Center	\$2,700,000
Indian River Agro-Forestry Station	\$950,000
Penney Farms Forestry Station	\$600,000
Sebring Forestry Station	\$600,000
Arcadia Forestry Station	\$350,000

## Equipment

The Bureau of Forest Resource Planning and Support Services' Equipment Section has statewide responsibility for fleet management for the Division of Forestry. The Equipment Section's major task is the purchase of specialized fire-fighting and forestry land management equipment and motor vehicles. In fiscal year 2007-2008, the Division of Forestry received approximately \$6.5 million in budget allocations and grants to purchase forestry equipment. This section also coordinates motor vehicle and equipment specification development for bids and acquisition, equipment inventory, warranty issues and special projects for the Division of Forestry as to the compliance for forestry equipment performance. These motor vehicles will receive custom fabrication to meet firefighting and land management specific requirements at the Division of Forestry's Lake City Central Shop.

## Planning

During fiscal year 2007-2008, the Bureau of Forest Resource Planning and Support Services' Planning Section compiled data for reporting the division's accomplishments related to legislatively approved performance measures, coordinated development of forestry Field Unit and bureau annual operational plans, submitted long-range program plans as part of a legislative budget request, and conducted reviews of county comprehensive planning documents, utility siting applications, and clearinghouse projects on an ongoing basis.

The section administers the Florida Forestry Discovery Center, which is part of the Florida State Fair and receives over 30,000 visitors annually. The section also issues quarterly fiscal reports of operating capital outlay motor vehicle and fixed capital outlay status for the Division of Forestry.

## Safety

The mission of the Division of Forestry is to manage forest resources and protect Florida and its people from the dangers of wildland fire. The duties and tasks involved in accomplishing this mission are both numerous and hazardous, which is why the safety of employees is a high priority.

The Division of Forestry's safety record is evidence that safety is recognized and promoted in all aspects of the agency's activities. In spite of an active fire season in 2008, the number of injuries reported was minimal.

Utilizing employee safety committees, implementing new ways to track trends, and providing more efficient methods of safety training to employees are just a few examples of the Division of Forestry's efforts to create the safest work environment possible.

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### **Forestry Youth Academy**

After 12 successful years, the Division of Forestry's Youth Academy in the Goethe State Forest in Levy County closed in May 2008. The facility provided a life-changing experience for over 400 juvenile offenders during its term of operation. The low-risk residential program was for youthful offenders aged 15 to 19. It was established in 1996, through a joint agreement between the Division of Forestry, the Florida Department of Juvenile Justice, and the Levy County School Board. Residents received academic and vocational training and learned important social and life skills. They were taught discipline and teamwork and had the

opportunity to develop positive values and a sense of personal responsibility. Hands-on training was available in such areas as building and maintenance, heavy equipment operation, small gas engine repair, welding, culinary arts, chainsaw operation, and firefighting.

### **Florida Center for Wildfire and Forest Resource Management Training**

Fiscal year 2007-2008 marked the 10th year of operation for the Florida Center for Wildlife and Forest Resources Management Training in Brooksville. The center provides classes in Basic Fire Control Training (BFCT) to the Division of Forestry's new firefighters. The seven-week training program is offered twice per year. This year, 56 new candidates received certification as Wildland Firefighters in Florida.



# SAFEGUARDING Florida's Consumers

## Division of Consumer Services

During fiscal year 2007-2008, the Division of Consumer Services continued its legacy of serving as Florida's complaint and information clearinghouse. Division staff effectively provided consumer information, processed written complaints, and promoted consumer protection. During this period, the division's Consumer Assistance Call Center handled approximately 270,000 telephone calls and 7,012 email requests to assist consumers and businesses. Additionally, the division received 32,032 written complaints, recovered \$6,139,408 in consumer refunds and property, and provided 360,040 brochures, pamphlets, and booklets for distribution to consumers.

The division continued to increase public awareness through its consumer outreach program by providing speakers to civic groups, community organizations, and high schools throughout the state. The speakers provided general consumer information, and the latest news on scams, fraud, and deception. They also provided educational materials on a variety of topics. In addition, the division utilized its web site [www.800helpfla.com](http://www.800helpfla.com) to educate consumers and businesses. The web site served as a valuable source for information on the many services provided by this agency and other government and non-government offices. Businesses have access to licensing and registration information, as well as the forms necessary to comply with applicable regulations. Online services are available, making it more convenient to do



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business with the Department. Some businesses can renew their registrations and submit filings and purchase lists, and consumers can file a complaint online to have their dispute mediated. During fiscal year 2007-2008, the web site received a total of 1,763,037 web visits.

The division continued imaging and scanning all registration and complaint files. This process has contributed to the division's efficiency and productivity by streamlining business processes. Division staff can access documents instantly, the need to archive records has been eliminated, and public records requests can be processed promptly. By imaging and scanning documents, the management and control of files is more uniform.

The Department also functions as the U.S. Consumer Product Safety Commission's liaison in Florida regarding product recalls, inspections, and investigations.

## **Consumer Assistance Call Center**

The Consumer Assistance Call Center maintains and operates the Department's toll-free consumer hotline, 1-800-HELPFLA (1-800-435-7352), and the Spanish hotline, 1-800-FLAYUDA (1-800-352-9832). The Call Center is staffed with trained personnel who respond to a wide variety of consumer questions about Florida laws and other consumer-related issues. They assist callers in locating the appropriate governmental office they are seeking and then transfer the caller to that office. They provide up-to-date information and educational brochures.

Consumer questions cover various areas the Department regulates, such as business opportunities, dance studios, game promotions,

health studios, intrastate moving, motor vehicle repair, Florida's Do Not Call program, pawn shops, sellers of travel, solicitation of charitable contributions, telemarketing, and the motor vehicle "Lemon Law." The Consumer Assistance Call Center staff also responds to inquiries on a multitude of subjects that are not regulated, such as landlord/tenant issues, buying clubs, and retail store regulations. Staff utilizes the Department's computer database to develop statistical information on the frequency and type of calls received. Each call is logged under a specific subject category in the database, which allows the Department to track and analyze the most prevalent consumer issues. This record enables consumer education efforts to be tailored to the specific needs of the public.

During fiscal year 2007-2008, staff provided 471,340 assists to consumers and businesses by providing information, brochures, and complaint and registration forms. Eighty-two percent of callers responding to surveys ranked the Consumer Assistance Call Center's service as outstanding.

## **Consumer Complaints**

Complaints are received online and via mail, and deal with a variety of subjects. The Bureau of Mediation and Enforcement processes all consumer complaints filed with the Division of Consumer Services. Division staff reviews each complaint for violations of applicable laws. If the complaint falls within the jurisdiction of the Department or if it is a non-regulated complaint, staff will attempt to resolve disputes through informal mediation. Complaints that fall under the jurisdiction of another federal, state, or local governmental agency are referred to that office for processing. The top five complaint



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categories during fiscal year 2007-2008 were: telephone sales solicitations (Do Not Call), travel and vacation plans, communications, credit and banking, and telemarketing. During fiscal year 2007-2008, the division received 13,483 complaints filed against entities regulated by the division and recovered \$3,639,994 in monetary refunds and property for consumers. In addition, another 18,549 complaints filed against non-regulated businesses were received, which resulted in \$2,499,414 in monetary refunds and property to consumers. The division also assisted in recovering an additional \$114,122 in consumer refunds from security instruments (bonds, letters of credit, or certificate of deposits) filed with the Department for the protection of consumers from a breach of contract.

## **Motor Vehicle "Lemon Law"**

The Department administers the Florida Motor Vehicle Warranty Enforcement Act, commonly known as the "Lemon Law." Personnel respond to consumer complaints and inquiries, provide information about the Lemon Law, and determine whether claims are potentially eligible for state arbitration before the Florida New Motor Vehicle Arbitration Board.

The Department also provides certification to motor vehicle manufacturers who establish informal dispute settlement procedures in compliance with applicable federal and state statutes. In fiscal year 2007-2008, the Department recertified informal dispute settlement procedures for General Motors (GM), Honda/Acura, Nissan/Infinity, Bentley, Saab, Volkswagen/Audi, AM General, Isuzu, Hyundai, Kia Motors, Mazda, Saturn, and Ford Motor Company. These manufacturers utilize the Better Business Bureau Auto Line to administer their programs. Following

recertification, Saturn notified the division they would no longer maintain a separate certification and they would certify under GM. During the fiscal year, they became certified as a division of GM. Saab also became certified as a division of GM. Porsche, Toyota, and Lexus were also recertified. These manufacturers utilize the National Center for Dispute Settlement to administer their programs. Each of these programs is audited throughout the year for compliance.

During fiscal year 2007-2008, the division answered 13,506 telephone calls on the Lemon Law hotline, 1-800-321-5366. The division also processed 864 requests for state arbitration and approved 762 of these for referral to the Attorney General's Office. In addition, division staff reviewed 2,977 consumer cases that were processed through the manufacturers' informal dispute settlement programs. Every year millions of dollars are recovered for consumers through the manufacturers' informal dispute settlement programs. During this fiscal year consumers received approximately \$13,799,581 in refunds.

## **Regulated Programs**

The Department is responsible for regulating a variety of industries operating in Florida, including business opportunities, dance studios, game promotions/sweepstakes, health studios, intrastate moving, motor vehicle repair shops, Florida's Do Not Call program, pawn shops, sellers of travel, solicitation of contributions, and telemarketing. These programs are designed to protect consumers and the integrity of each industry. Industry members must submit a registration/license application or similar filing and, in some cases, a surety bond, certificate of deposit, or letter of credit to ensure consumer refunds in the event a business defaults.

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### **Business Opportunities**

The Business Opportunities Program requires individuals who sell or lease any products, supplies, or services for the purpose of starting a business to register and disclose certain information to prospective purchasers. Some sellers must also submit a \$50,000 surety bond, certificate of deposit, or letter of credit. In fiscal year 2007-2008, there were 2,638 sellers of business opportunities and franchises registered with the Department, and staff processed 448 written complaints, investigations, and enforcements. Additionally, as a result of the division's mediation efforts, consumers received \$378,493 in refunds and \$12,000 in administrative fines was collected.

### **Dance Studios**

The Dance Studio Program requires all ballroom dance studios to register with the Department. In some instances, registrants are required to post a surety bond, certificate of deposit, or letter of credit. For fiscal year 2007-2008, there were 224 dance studios registered with the Department, and staff processed 67 written complaints, investigations, and enforcements. Additionally, staff recovered \$4,704 in consumer refunds and collected \$9,000 in administrative fines.

### **Game Promotions**

The Game Promotions Program requires operators who conduct contests, games of chance, or gift enterprises in connection with the sale of consumer products or services in which the total announced value of prizes offered is greater than \$5,000 to file with the Department. Unless they have been granted a waiver, operators are also required to establish a trust account or obtain a bond in an amount equivalent to the total value of all prizes offered. During this fiscal year, the Department started using e-commerce to allow game promoters to conduct

online transactions when filing promotions. Game promoters filed 1,320 promotions using the Department's e-commerce system. During fiscal year 2007-2008, staff processed 7,243 game promotion filings and 981 written complaints, investigations, and enforcements. Additionally, staff recovered \$817 in consumer refunds and collected \$446,250 in administrative fines.

### **Health Studios**

The Department regulates health clubs that offer health club activities or physical exercise equipment. Some health studios are required to post a \$50,000 surety bond, certificate of deposit, or letter of credit to satisfy consumer claims that may result from violations of Florida law. During fiscal year 2007-2008, there were 2,246 health studios registered with the Department, staff processed 1,185 written complaints, investigations, and enforcements. Additionally, staff recovered \$58,646 for consumers, and collected \$66,875 in administrative fines.

### **Intrastate Moving**

The Department regulates intrastate moving companies operating in Florida. This law requires a written estimate be given to consumers before the mover provides any moving or packing services. During fiscal year 2007-2008, there were 1,050 intrastate moving companies registered with the Department, and staff processed 839 written complaints, investigations, and enforcements. In addition, as a result of the division's mediation efforts, staff recovered \$78,511 in consumer refunds and services and collected \$38,585 in administrative fines.

### **Motor Vehicle Repair Shops**

The Department regulates all motor vehicle repair shops in Florida in accordance with the

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**Motor Vehicle Repair Act.** This law requires an estimate and invoice form be provided to consumers for repair work exceeding \$100. During this period, the Department continued using e-commerce to allow motor vehicle repair shops to conduct online transactions when renewing their registration. This fiscal year, 1,340 motor vehicle repair shops renewed their registration using the online renewal process. During fiscal year 2007-2008, there were 24,969 motor vehicle repair shops registered with the Department. Department staff processed 7,122 written complaints, investigations, and enforcements. Additionally, as a result of the division's mediation efforts, staff recovered \$745,279 in refunds for consumers and collected \$330,082 in administrative fines.

## **Do Not Call**

The Florida Do Not Call law is a privacy law enacted to protect consumers from unwanted telephone solicitations and pre-recorded messages. Consumers can subscribe to the Do Not Call List for an initial fee of \$10, with a \$5 annual renewal fee. Subscribers may file a complaint with the Department for any unwanted phone calls they have received from non-exempt businesses. Consumers may also file a complaint if they receive pre-recorded messages. At the end of fiscal year 2007-2008, the Department had processed 7,543 new subscriptions and 91,683 renewals for a total of 99,226 subscriptions. The program processed 4,405 written complaints and enforcements. A total of \$133,619 was collected in civil penalties.

## **Pawn Shops**

The Department licenses all pawn shops operating in Florida pursuant to the Florida Pawnbroking Act. Each pawn shop must maintain a net worth of at least \$50,000 or file

a \$10,000 security in the form of a surety bond, certificate of deposit, or letter of credit. During fiscal year 2007-2008, there were 1,198 pawn shops licensed with the Department, and staff recovered \$16,778 in consumer refunds and collected \$31,000 in administrative fines.

## **Sellers of Travel**

The Department regulates travel agencies that maintain a business location in Florida or who offer to sell to persons in Florida for compliance with the Sellers of Travel Act. Non-exempt sellers of travel must register and, in some cases, submit a performance bond, certificate of deposit, or letter of credit in an amount not to exceed \$25,000, or \$50,000 if they sell vacation certificates. A seller of travel that has been in business for at least five years and meets certain other requirements may apply for a security waiver. In addition, independent agents must submit annual filing statements to the Department. During fiscal year 2007-2008, 13,961 sellers of travel and independent agents were registered with the Department. Staff processed 3,686 written complaints, investigations, and enforcements. Additionally, as a result of the division's mediation efforts, staff recovered \$1,645,607 in consumer refunds and collected \$46,325 in administrative fines.

## **Solicitation of Contributions**

The Solicitation of Contributions Act requires charitable organizations, sponsors, professional fund-raising consultants, and professional solicitors to register with the Department. During fiscal year 2007-2008, there were 14,294 charitable organizations, sponsors, professional solicitors, and fund-raising consultants registered with the Department. The Department processed 528 written complaints, investigations,

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and enforcements. Additionally, staff recovered \$56,525 in consumer refunds and collected \$63,055 in administrative fines.

### Telemarketing

The Florida Telemarketing Act requires non-exempt telemarketers to obtain a license from the Department and submit a \$50,000 surety bond, certificate of deposit, or letter of credit. During fiscal year 2007-2008, there were 9,364 businesses and individuals licensed with the Department. Staff processed 2,429 written complaints, investigations, and enforcements. In addition, staff recovered \$670,082 in consumer refunds for consumers and collected \$394,000 in administrative fines.

### Investigations

The Investigations Section conducts investigations of businesses (both regulated and non-regulated) and responds to consumer complaints. The priority for this group is to ensure businesses operate in compliance with applicable laws. This group also investigates businesses suspected of fraud and deceptive trade practices. During fiscal year 2007-2008 the Investigations Section worked 5,467 enforcements and initiated 436 investigations covering a variety of topics. The high-volume cases for investigations were motor vehicle repair, intrastate moving, and sellers of travel.

### Consumer Education

The Division of Consumer Services continued to promote its educational outreach programs aimed at increasing public awareness of consumer protection issues among Florida citizens. During fiscal year 2007-2008, the division provided 2,662,406 assists to consumers and businesses statewide through

a variety of formats, including the web site, newspaper articles, newsletters, brochures, and public presentations.

Division representatives gave public presentations on consumer-related topics to more than 15,000 consumers representing various groups and organizations throughout the state. The division's web site was monitored and updated on a regular basis to include relevant information to businesses and consumers on various laws, as well as current frauds and scams.

At the end of fiscal year 2007-2008, the subscription list for the monthly e-newsletter for Florida consumers contained 47,398 subscribers. The newsletter provides quick tips on important consumer-related issues and lists resources for finding additional information. Additionally, the division continued to submit articles on consumer-related issues to the "Elder Update," a newsletter published by the Department of Elder Affairs. More than 70,000 copies per issue were distributed to senior citizens on a bi-monthly basis. Articles were published in four issues. Consumer education is the main focus of the division. The division's educational efforts focus on helping individuals become wiser consumers and empowering them to make informed decisions when purchasing products and services and signing contracts.

During this fiscal year the division implemented "Consumer Survival Skills 101," an outreach program designed to educate high school students about their rights and responsibilities as consumers. The program provides them with the necessary tools to make intelligent and informed decisions in a global marketplace. The program was presented to more than 4,300 teachers and students.



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The Department continued sponsorship of the Florida LifeSmarts program for the 12th year. LifeSmarts is an innovative competition that tests students in grades nine through 12 on their knowledge of personal finance, health and safety, the environment, technology, and consumer rights and responsibilities. The Florida online competition involved more than 700 students from public and private high schools, FFA and 4-H clubs, and home-school settings throughout the state. Students competed online to be among Florida's finalists to compete for the state title. The 2008 national LifeSmarts competition sponsored by the National Consumers League was held in Minneapolis. State champion teams from across the nation traveled to the national competition to compete to become the national LifeSmarts champions.

## Division of Standards

### Petroleum Inspection

The Department regularly conducts inspections of the petroleum distribution system and tests samples of alternative and petroleum fuels to ensure compliance with state quality standards. Inspections and testing ensure consumers are being offered quality products at fair measure.

The Department's three petroleum-testing laboratories routinely test the quality of gasoline, kerosene, alternative fuels, diesel, and fuel oil through octane rating, distillation, vapor pressure, sulfur content, oxygenate content, lubricity, flash point, and other related analytical laboratory tests.



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In fiscal year 2007-2008, 99 percent of the samples collected and tested met state standards, which are considered amongst the strictest in the nation. The samples represented more than 10.4 billion gallons of alternative and petroleum fuels distributed throughout Florida. During this period, the Department issued 496 stop-sale orders to prevent the sale of more than 943,902 gallons of substandard fuel.

The petroleum laboratories, located in Tampa, Tallahassee, and Port Everglades, conducted 114,115 tests on petroleum, alternative fuels, antifreeze, brake fluid products during this period. Department petroleum field inspectors also conducted 231,039 inspections on retail motor fuel dispensers at approximately 9,169 retail motor fuel facilities throughout Florida. Petroleum field inspections included calibrating tests, proper installation and maintenance of measuring devices, price gouging investigations, testing for water and debris, verification of alternate generated electricity wiring and equipment, and correct labeling of motor fuel dispensers. As a result of these inspections, 3,481 motor fuel pumps were taken out of service due to improper calibration, and 33,107 correction notices were issued for improperly maintained pumps.

The Department is also responsible for registering and monitoring antifreeze and brake fluid products sold in Florida. Laboratory personnel analyze antifreeze products for corrosion, freezing point, boiling point, and chemical content. They analyze brake fluid products for boiling point, elastomer swelling, and chemical content before registering such products as suitable for sale to the public. During fiscal year 2007-2008, the Department

registered 282 brands of antifreeze and 391 brands of brake fluid as acceptable products to be marketed throughout Florida.

The Department also handled 5,476 petroleum-related consumer complaints as a result of posting the 1-800-HELPFLA consumer hotline decal on motor fuel dispensers. Complaints were concentrated primarily on fuel quality, meter accuracy, and price. The petroleum inspection field staff works to respond to these complaints within 24 to 48 hours.

This past year the Department continued to inspect and monitor the more than 1,000 wholesale and retail motor fuel facilities that were required to have alternate-generated power equipment and/or wiring installed to operate designated facility functions during an electrical outage. Affected facilities were required to install electrical transfer switches capable of connecting to backup electricity generators, which may be used to supply electrical power to facilities and supply available fuel to consumers during a disaster.

The Department also witnessed renewable and alternative fuels migrate further into Florida's motor fuel marketplace. Following last year's preparation for such products, the Department's petroleum-testing laboratories were able to test such fuels entering the marketplace, ensuring compliance with state fuel quality standards and providing maximum consumer protection for consumers purchasing these new products. Revised standards have also been evaluated and adopted to ensure maximum consumer protection when purchasing these fuels.

The Department uses numerous fraud investigation techniques, including the deployment of undercover vehicles, to ensure

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that consumers receive fair measure from petroleum pumps. The unmarked vehicles have a specially designed and calibrated gasoline tank that enables a trained inspector to determine a pump's calibration without a service station operator's knowledge. The undercover vehicles have confirmed that most petroleum pumps in Florida are accurate and consumers are receiving fair measure.

## Weights and Measures

The Department conducted over 67,000 inspections and accuracy tests on commercial weighing and measuring devices. Staff ordered 4,509 devices to be corrected because they were found to be out of compliance with adopted standards. Another 2,270 devices were taken immediately out of service because they were found to have excessive measuring errors. Commercial weighing and measuring devices include retail scales, prescription balances, livestock scales, truck scales, and taximeters.



Department inspectors check the accuracy of net contents and labels of packaged goods, including food products, dry goods, household items, building and construction materials, gardening products, and hundreds of other products purchased daily by consumers and businesses in the state. In fiscal year 2007-2008, inspectors sampled lots representing more than 244,000 packages. Stop-sale orders were placed on over 13,000 packages that contained less than the stated contents or failed to provide the required information on the label. Many more packages were recalled or relabeled by producers as a result of Department inspections. A risk assessment procedure was developed that enables inspectors to more efficiently evaluate packages for compliance and target packages more likely to be in violation.

Inspectors randomly tested 11,881 items for price accuracy in 209 businesses, primarily grocery, department, discount, drug, building supply, and other retail stores. Overall results showed that 1.12 percent scanned at more than the posted price and less than 1 percent scanned at lower than the price advertised. Violations were corrected immediately, and 22 businesses that failed to meet the 98 percent national accuracy standard faced additional sanctions and testing.

In the state metrology laboratory, the state primary standards of mass, length, and volume were used in comparing and calibrating more than 10,600 mass standards used by state inspectors, laboratories, high-tech industries, and commercial scale repair agencies, as well as 753 test measures used to check the accuracy of gas pumps and wholesale meters. The laboratory maintained its National Voluntary Laboratory Accreditation Program accreditation for providing traceable calibration services.

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The lab was one of the first state metrology laboratories to achieve this accreditation. In addition to providing Florida citizens, industries, and government agencies with calibration services, the lab performs special tests such as standardizing grain samples for use in testing moisture-determining equipment at commercial grain elevators and fabricates specialized measuring equipment needed by field staff in performing tests of devices and packages throughout the state.

## Fair Rides Inspection

The Department's amusement ride inspection program is, by reputation, the most comprehensive of any state in the country.



All amusement rides, except those at theme parks which are exempt by law, are inspected and permitted each year by the Bureau of Fair Rides Inspection. Permanent amusement rides – those located at a fixed site – are inspected twice each year. Temporary amusement rides, such as those used by carnivals, are inspected each time

they are moved or set up. Currently, there are 190 permanent locations and 169 temporary or traveling amusement ride companies operating in Florida.

To handle this workload, the Department has 15 inspection specialists stationed statewide to inspect and permit amusement rides. Department inspectors are constantly trained with recurring on-the-job training and structured training seminars developed by the Department. These ongoing training opportunities ensure inspectors stay abreast of the latest information on over 1,000 different rides currently permitted for operation. In addition, continuing education seminars sponsored by the amusement industry, amusement ride manufacturers, safety organizations, and engineers or other subject matter experts keep inspectors current on the latest inspection techniques.

In fiscal year 2007-2008, the Department issued permits for 1,688 amusement rides and conducted 10,057 inspections statewide. Those inspections identified 15,284 deficiencies on those amusement rides, all of which were corrected before the rides were allowed to open for public use. The Department issued 271 stop-operation orders for unsafe, uninsured, or un-inspected amusement rides and 40 administrative complaints resulting in fines for violations and non-compliance. The Department also investigates accidents and mechanical failures involving amusement rides and, when appropriate, closes and impounds unsafe amusement rides. During fiscal year 2007-2008, there were 185 reportable accidents that were fully investigated, analyzed, and used to develop preventive measures. Recently, the bureau revised and updated its database to compile accidents, violations, mechanical defects, and



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consumer complaints in order to provide a comprehensive amusement ride company profile for use by the public.

The Florida Amusement Device and Attraction Advisory Committee was established in 1991 by the Commissioner of Agriculture to advise and consult with the Department on amusement ride issues. The committee, which is appointed by the Commissioner, includes a cross-section of members from the amusement industry, fair industry, amusement parks, and technical or subject matter experts. This committee holds at least two public meetings annually to discuss safety issues, ride inspections, ride equipment, industry concerns, and other matters in support of the Department's inspection program.

Each year, the Department participates in a consultation program with the large theme parks in Florida on safety issues. Department staff visits each of the parks and reviews safety, maintenance, and operation procedures of the park rides. Furthermore, the theme parks file an affidavit of annual inspection on all their rides. The Department is a member of the American Society of Testing and Materials, Committee F-24, which develops standards for the manufacture, fabrication, performance, and testing of amusement rides and devices. The Department is also a member of the Council for Amusement and Recreational Equipment Safety (CARES), which is a national association of government regulatory officials that shares information among members and works with the U.S. Consumer Product Safety Commission on amusement ride issues.

## **Liquefied Petroleum Gas Inspection**

The Bureau of Liquefied Petroleum (LP) Gas Inspection is charged with the regulation of LP gas usage, storage, distribution, handling,

and transportation from the time the product enters the state until it reaches its final point of consumption. There are over 3,500 storage and distribution facilities in the state which handle approximately 400 million gallons of propane annually. At any given time, there is approximately 20 million gallons of storage contained in these facilities. During fiscal year 2007-2008, the bureau conducted 10,765 facility inspections, investigated 44 LP-gas related accidents, and issued 12,014 licenses. The numbers in these categories are nearly double what they were 10 years ago. The bureau took 8,399 enforcement actions to ensure compliance with safety regulations, including the issuance of 1,415 notices of noncompliance and 6,434 cease-and-desist notices.

In carrying out its goal of ensuring that LP gas is utilized safely, the bureau continues to develop and administer competency examinations to persons interested in engaging in LP gas-related activities. Over 1,187 examinations were administered during fiscal year 2007-2008. In addition, the bureau conducted over 51 classes dealing with safety training for dispensing unit operator personnel, building officials, and pipeline distribution system operators. In May 2008, the bureau co-sponsored the annual Ocala Safety School, which had 110 participants. Each year, this weeklong school draws attendees from all over the world. Eight bureau personnel, including six of its inspectors, taught classes at the Safety School. The hard work of Safety School participants and the success of this program were demonstrated by the increase in the number of first-time examinees passing the LP Gas Dealers' licensure examination in 2008. Forty-three of 78 students, or 55 percent,

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passed all parts of the examination on the first test administration. During 2006-2007, 48 of 94 students, or 51 percent, passed all parts of the exam upon initial administration.

In addition to carrying out the regulatory duties prescribed in Chapter 527, F.S., the bureau is charged with administrative oversight for the Florida Propane Gas Safety, Education and Research Act. Under this act, a regulatory monetary assessment is collected annually from the propane gas industry to fund programs for training, education, consumer safety, marketing, research, and development programs relating to the propane industry in Florida. In conjunction with this program, the Department maintains a consumer information web site and publishes and distributes thousands of consumer safety brochures relating to home heating safety, safe grilling, general safety practices, and the reporting of gas system changes to gas suppliers. For example, the bureau distributed detailed alerts warning consumers as to the use of LP gas cylinders that may have been contaminated via contact with anhydrous ammonia, which is utilized in the production of methamphetamine. Alerts were sent to consumers both through mail-outs and the bureau's web site.

Other activities of note during the 2007-2008 fiscal year include the following:

- Continued to improve on and promote the e-commerce web site for online licensing, training, and examination registrations. The web site has allowed the bureau to shorten by at least two weeks the typical time frame involved in processing licensure renewals.
- Worked with local building and permitting officials to enforce statutory guidelines and ensure code compliance in the growing home and commercial generator market.
- Participated in the Plumbing and Gas Technical Advisory Committee of the Florida Building Code Commission.
- Participated in the Florida Propane Gas Association's Codes and Standards Committee, to address safety code issues in Florida.
- Worked with several southern states to address an expansive product recall issued by a tank manufacturer.
- Participated in the Liquefied Petroleum Gases Technical Advisory Committee of the National Fire Protection Association to promulgate LPG safety standards.
- Participated in the National Association of Pipeline Safety Representatives meetings.
- Conducted inspections of approximately 300 cylinder installations at the Florida State Fair.
- Issued various safety bulletins and press releases related to industry and consumer safety.
- Participated in the annual Florida Plumbing, Gas and Mechanical Inspectors meeting.
- Conducted an LP gas safety seminar at the annual Florida Spa/Pool Association meeting.
- Increased co-inspections of LP gas systems on school properties with various county school board technicians.

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## Division of Licensing

The Division of Licensing oversees two different licensing programs that serve to enhance public safety and promote the general welfare of Floridians and the state's many visitors. One program involves the oversight of a group of specialized professions. The other program provides statewide uniform standards for issuing licenses to qualified, law-abiding individuals to carry concealed weapons and firearms for self-defense.

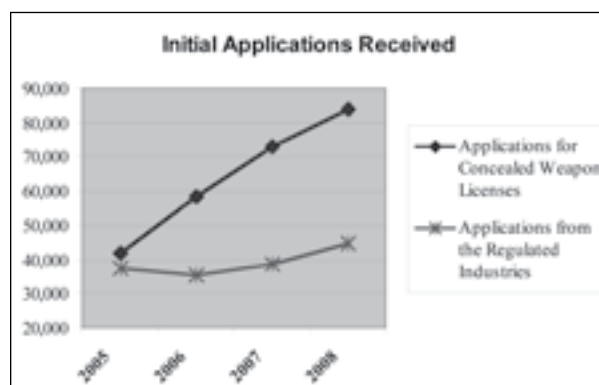
The first licensing program is administered under the authority of Chapter 493, Florida Statutes. In accordance with the provisions of this chapter, the Division of Licensing regulates Florida's private investigative, recovery, and security professions. The law grants the division wide authority that includes licensing and regulatory control over individuals and agencies operating in these professions. In addition, the division has input in defining educational standards and creating the course curriculum guidelines for the training that individuals must complete before they are licensed to work in these professions. The division's objective is to ensure that only those individuals who have been properly trained and who do not pose a threat to the public are licensed.

Under the authority of Section 790.06, Florida Statutes, the division issues licenses to carry concealed weapons or firearms to citizens for the purpose of lawful self-defense. The division's statutory responsibilities in administering the provisions of this section of law are twofold. First, the division is charged with ensuring that only knowledgeable, law-abiding citizens receive licenses. Second, in applying the uniform standards for the issuance of concealed weapon

licenses enacted by the Legislature, the division assures the legislative intent that no honest, law-abiding citizen who qualifies for a license is denied his or her right.

## Benchmarks and Achievements

Both licensing programs administered by the division have experienced unprecedented growth in receipt of applications from fiscal year 2004-2005 to date. The division saw a 162 percent increase in the two programs combined. The division received 191,840 applications during fiscal year 2007-2008, up from 176,937 applications the previous fiscal year. By year's end the total number of licensees in both programs had increased to an all-time high of 654,344 with 142,476 licensees in the regulated professions and 511,868 concealed weapon licensees.



As the numbers in the chart indicate, the overwhelming majority of the growth of the licensee population is the result of more and more people wanting concealed weapon licenses (a 200 percent increase in initial applications for the concealed weapon licensing program from fiscal year 2004-2005 to date). During fiscal year 2007-2008, the division issued more new concealed weapon licenses – a total of 85,937 – than in

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any other year since the division began issuing concealed weapon licenses in 1987. The division issued an average of 2,000 new and renewal concealed weapon licenses each week during fiscal year 2007-2008.

The division's Public Inquiry Section, which responds to telephone inquiries from applicants, licensees, and the general public, received 301,427 telephone calls, up from 128,744 calls in fiscal year 2004-2005, a 134 percent increase in three years. The number of incoming telephone calls handled by the division's Legal Support Section has increased 73 percent, from 26,125 to 45,307, within a single fiscal year.

In addition to issuing record numbers of licenses and responding to an ever-increasing number of telephone inquiries, the division's enforcement and legal branches continued in their efforts to curtail unlicensed and unlawful activities in the regulated professions. Investigators in the division's Bureau of Regulation and Enforcement investigated 1,464 complaints against individuals and agencies and performed 4,054 compliance inspections. With no additional staffing and resources, these numbers remained relatively unchanged from the previous year.

The division's Legal Section completed 29,841 administrative actions in fiscal year 2007-2008. These actions include the denial of applications for licensure and the suspension or revocation

of existing licenses. This figure represents an increase of almost 154 percent over the number of administrative actions completed in fiscal year 2006-2007. This sharp increase resulted from a revision to Chapter 493, Florida Statutes, which automatically suspends the license of any security officer who fails to submit proof of statutorily required supplemental training within 180 days from the date his or her initial application was submitted.

## **Challenge to Meet Ongoing Demands**

Despite the remarkable growth in the two licensing programs administered by the Division of Licensing, the division has seen little growth in personnel resources to meet the demands of its day-to-day workload. In fiscal year 2004-2005, the division had 139 full-time positions. By fiscal year 2007-2008, the division's staff had increased by only two positions.

Historically, the division has managed to handle its ever-increasing workload through the innovative use of technology that eliminates reliance on unwieldy paper-based license processing systems, streamlines operations, and helps maximize the efficiency of its employees. However, the sheer volume of applications received and the corresponding demand on the division's services has severely strained the division in the last fiscal year. Management and employees continue striving to find ways to deliver more and better services.



# ENSURING

## Employee Excellence



The Department recognizes that Florida's citizens are best served by a workforce that receives continuing education and has ample opportunity for professional development. Employee training and development serve as powerful motivating factors for employees of the Department. The Department continues to invest in its employees by providing numerous training, educational, and recognition opportunities. The result is a superior workforce that performs by the motto of "personal commitment and professional pride."

### Training

The high quality of service the Department provides is attained and maintained by the training its employees receive. That training begins at hiring and continues throughout the career of each employee, thus increasing their knowledge, skills, and abilities. This year, a total

of 992 employees participated in Department-wide training classes, such as New Employee Orientation, Team Building, Stress Management, Time Management, Diversity, Leadership, Department Supervisory Standards, Conflict Resolution, Meetings Management, Train-the-Trainer, Advanced Train-the-Trainer, CPR/AED, and various software titles. This fiscal year the Department arranged for instructor-led computer training for 190 employees, and an additional 103 employees participated in Internet-delivered computer classes. The Training and Development Section also assisted other divisions with their design, development, and evaluation needs.

The Training and Development Section works in conjunction with the Bureau of Personnel Management to provide many of the training sessions identified above, especially the New Employee Orientation and Supervisor Skills training. In addition, the Bureau of Personnel Management also trains staff in a variety of topics on an ad-hoc basis as needed. Topics include performance appraisals, attendance and leave, Americans with Disabilities Act regulations, and benefits.

### Education

The Department encourages and supports continued education and personal development. This past fiscal year, 21 employees continued their education by taking work-related classes that qualified for tuition reimbursement from the Department. An additional 141 employees participated in the state's tuition waiver program. These employees further developed their ability to contribute to the Department by taking classes at universities, community colleges, and technical centers.

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## Employee Excellence

A total of 59 Department managers participated in the Certified Public Manager Program. This two-year program is a systematic approach to training and developing governmental administrators in order to improve their performance and the performance of government. At present the Department has 168 managers on staff who have successfully completed the program and received the designation of Certified Public Manager. There are an additional 28 employees who have completed Phase II and are slated to join the ranks of Certified Public Manager graduates in August 2008. The knowledge gained by these managers provides a framework for continued quality leadership throughout the Department.

### Awards

The Department not only encourages life-long learning, it rewards those who make exemplary achievements. Thirteen nominations were successfully submitted for a Prudential Financial Davis Productivity Award, detailing the extraordinary efforts of 88 individuals. The dollar benefit to Florida and its citizens is estimated to have been approximately \$106,121,262, all as a result of these employees' initiative and hard work. In addition, this year the Division of Plant Industry received an Eagle Award for Sustained Achievements.

The Department also recognizes employees for their length of service. Approximately 604 employees were awarded certificates for their continued service to the Department.

### Minority Businesses

The Department spent approximately \$6.5 million with certified minority businesses during the 2007-2008 fiscal year. The Department continues to be one of the leading agencies

in minority spending. As a state agency, the Department strives to make minority business spending a priority.

### Agriculture Management Information Center (AGMIC)

#### Network Infrastructure: MyFloridaNet

The Department has now completely switched all networked facilities to the new MyFloridaNet communications infrastructure. MyFloridaNet is a comprehensive network connectivity solution providing a rich and flexible private enterprise communications infrastructure dedicated for the exclusive use of Florida agencies. This new infrastructure is providing improved security and robust connectivity resulting in a highly available (HA) and highly reliable (HR) statewide communication network. The MyFloridaNet core contains over 20 gigabits of bandwidth, many times over the total bandwidth historically utilized by State of Florida customers.



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## Employee Excellence

### **Disaster Recovery Planning and Testing**

Over the weekend of May 16-18, 2008, AGMIC performed its annual exercise of the recovery of computer applications residing on hardware platforms that the office maintains. This disaster recovery test was performed at SunGard's facility in Carlstadt, New Jersey. This was a coordinated effort between AGMIC and division staff that tested the applications remotely from Tallahassee. Building upon the exercises from years past, Virtual Private Network (VPN) technology was utilized to prevent an interruption to production processing, while still allowing for remote testing between the New Jersey facility and the disaster recovery lab located in the Nathan Mayo building. This year's test included the recovery of the following applications:

Administration: Department of Agriculture and Consumer Services

Administration: Disbursements

Administration: Financial Information Systems

Administration: Fuel Card Billing System

Administration: Payroll Accounts Reporting System

Administration: Revenue

Agricultural Environmental Services: Registration Tracking System

Agricultural Law Enforcement: Case Management System

Animal Industry: Reportable Animal Disease

Dairy Industry: Regulatory Information Management System

Food Safety: Electronic Inspection System

Food Safety: Food Safety System

Forestry: TREES System

Standards: Bureau of Petroleum Generator Inspection System

All these applications had documented recovery plans and either had been tested in AGMIC's test lab or previously restored in a prior test. This practice allowed for additional findings and remediation, along with proper documentation of the application's recovery steps. These recovery materials and documentation were then put to test under disaster recovery conditions. Division users performed a documented verification from the disaster recovery lab in the Mayo Building. All applications were successfully recovered.

### **Web Filter/Security Implementation**

In fiscal year 2007-2008, the Department invested in a network web security device from Ironport to filter web traffic and block potential malware installed on suspect web sites. All web traffic is directed through this security device and is filtered for content. This device is another necessary layer to protect Department employees from illicit content and dangerous malware/spyware.

### **Anti-Spam Upgrade**

In fiscal year 2007-2008, the Department upgraded the system used to block email-based spam. With the previous system, the Department was blocking approximately 92 percent of all inbound spam. With hundreds of thousands of spam messages per month, the remaining 8 percent still was a significant amount. The Department upgraded to Ironport's anti-spam device, and the amount of spam being contained increased to over 99 percent.

### **Continuity of Operations Plan (COOP) and Health, Safety and Security Manual**

The Department continues to enhance its divisions' Health, Safety, and Security Manuals with the adaptation and inclusion of a pandemic influenza appendix. Each division has modified the pandemic influenza template to

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fit its unique circumstances. Additionally, the Department put into service 36 new automated external defibrillators at various facilities and trained over 300 employees in their use and in basic-rescuer techniques. Testing, training, and exercising of the Continuity of Operations Plan and Information Technology Disaster Recovery Plan continue each year.

### **Administrative Imaging Management System (AIMS) Travel System**

Many Department employees are required to travel in the performance of their assigned job duties, generating over 8,000 requests for travel advances and travel reimbursements annually. Until recently, reimbursement for travel expenses was a manual, paper-intensive, and time-consuming process, with a turn-around time of one week to 10 days. In an effort to streamline this process and provide faster reimbursement to the employee, the Division of Administration staff worked with an outside consultant to develop a web-based travel processing system.

The AIMS Travel System went live in April 2008. Shortly after, 500 employees received training through both live and web/ex sessions. The travel system was designed to create and process all documents associated with the authorization of and payment for official business travel. Employees use the system to create a travel authorization, travel advance, or a travel voucher as required and submit these documents to a workflow system for review at various approval levels and subsequent processing by the Travel Section in the Bureau of Finance and Accounting. The new system eliminates the need for paper forms, and the information is stored electronically for easy retrieval.

### **Office of Inspector General**

The Office of Inspector General (OIG) is established in accordance with Section 20.055, Florida Statute. The OIG provides a central point for coordination of and responsibility for activities that promote accountability, integrity, and efficiency in government.

The mission of the OIG is to protect and promote public integrity and accountability within the Department through audits that detect fraud, waste, and abuse and through the investigation of administrative and criminal violations. The goal of the OIG is to decrease the reoccurrence of such violations through employee awareness and cooperation while providing the Department with a timely, accurate, objective, and useful work product. The OIG also strives to enhance public trust.

The OIG is comprised of two sections to accomplish these responsibilities. The following provides detailed information about each section's responsibilities:

### **Auditing Section**

The internal auditing activity provides independent, objective assurance and consulting services to add value and improve the Department's effectiveness in risk management, control, and governance processes. An assurance service is an objective examination for the purpose of providing an independent assessment or opinion in regard to the particular engagement's objectives. A consulting service is an advisory and client assistance service, the nature and scope of which is agreed upon with the client for each particular engagement.

Internal audit activities are performed in accordance with the Standards for Professional Practice of Internal Auditing published by



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the Institute of Internal Auditors, Inc. Audit projects involving information technology are also conducted in accordance with the Standards for Information Systems Auditing published by the Information Systems Audit and Control Association.

During fiscal year 2007-2008, 15 assurance engagements were conducted covering performance measures, revenue collection, fraud data analysis, and Department policy and procedure review. The Auditing Section also participated in six consulting services and coordinated 15 external audits or reviews by federal and other state agencies.

## Investigation Section

The Investigation Section conducts inquiries and investigations into administrative and criminal complaints. These complaints are received from a wide variety of sources, both inside and outside the Department. OIG cases are categorized into three types:

1. Preliminary inquiries, which may be conducted in circumstances when it is necessary to determine the validity of a complaint prior to the initiation of a formal investigation.
2. Inspector General investigations, which are formal investigations conducted in accordance with Florida Statute and/or Department policy and procedures.
3. Assistance in other Department cases that involve investigative assistance to agencies or law enforcement officers external to Department operations.

The key investigative responsibilities of the OIG are to initiate, conduct, supervise, and coordinate investigations designed to detect, deter, prevent, and eradicate fraud, waste, mismanagement, misconduct, and other abuses in state government by:

- Receiving complaints and coordinating all activities of the agency as required by the Whistle-blower's Act pursuant to Sections 112.318712.31895, F.S.
- Receiving and considering complaints that do not meet the criteria for an investigation under the Whistle-blower's Act and conducting, supervising, or coordinating such inquiries, investigations, or reviews as the Inspector General deems appropriate.
- Conducting investigations and other inquiries free of actual or perceived impairment to the independence of the Inspector General or the Inspector General's Office. This shall include freedom from any interference with investigations and timely access to records and other sources of information.

During fiscal year 2007-2008, the Investigation Section carried nine cases over from the previous year, opened 63 new cases, closed 61 cases, and carried forward 11 cases to the next fiscal year.



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